MANAGEMENT CONTROL SYSTEM: ITS ANTECEDENTS AND CONSEQUENCES ON ORGANIZATIONAL PERFORMANCE

RABEE M.A. SHURAFA

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RABEE M.A. SHURAFA

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ABSTRACT

The purpose of this study was to examine the antecedents and consequences of Management Control System (MCS) in the context of a less-developed country. Based on contingency and resource-based view theories, the study examined whether perceived environmental uncertainty (PEU) (i.e., competitive, operational, political, and technological uncertainty), and national culture (i.e., high uncertainty avoidance, collectivism, and high-power distance), have significant influence on MCS represented by levers of control (i.e., beliefs, boundary, diagnostic, and interactive control) among firms listed on the Palestinian Securities Exchange. This study also examined whether MCS influenced organizational learning, the impact of organizational learning on organizational performance, and finally the mediating role of the organizational leaning between MCS and organizational performance. The sample framework was the entire population of the Palestinian firms listed on the Palestine Securities Exchange, which comprised 49 companies distributed into five different industries. Data were collected via survey questionnaires distributed to the top management and were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings indicated that PEU and national culture had a significant and positive influence on MCS. In addition, MCS also significantly influenced organizational learning. Furthermore, a significant positive association existed between organizational learning and organizational performance. Finally, the results indicated that organizational learning partially mediated the relationship between MCS and organizational performance. To conclude, this study has provided important insights on the factors influence MCS and its consequences on organizational performance in general, and specifically in Palestine. The findings contribute to the theoretical, methodological and practical and opened up possibilities for further research regarding MCS practices in Palestine and other developing countries, and worldwide.

Keywords: management control system, perceived environmental uncertainty, national culture, organizational learning, organizational performance

ABSTRAK

Kajian ini adalah bertujuan untuk mengkaji hubungan di antara faktor dan kesan Sistem Kawalan Pengurusan (MCS) dalam konteks negara kurang maju. Berdasarkan teori kontigensi dan teori *resource-based view*, kajian ini mengkaji sama ada persepsi ketidakpastian persekitaran (PEU) (iaitu persaingan, operasi, politik dan ketidakpastian teknologi), dan budaya nasional (iaitu, kolektivisme, pengelakkan ketidakpastian yang tinggi, dan jurang kuasa yang besar) mempunyai pengaruh yang signifikan atau sebaliknya ke atas MCS yang diwakili oleh alat kawalan (iaitu kawalan kepercayaan, sempadan, diagnostik dan interaktif) dalam firma yang tersenarai di Bursa Sekuriti Palestin. Kajian ini juga menguji pengaruh MCS terhadap pembelajaran organisasi, kesan pembelajaran organisasi terhadap prestasi organisasi serta peranan pengantara pembelajaran organisasi antara MCS dan prestasi organisasi. Sampel kajian ini adalah melibatkan populasi bagi semua firma yang tersenarai di Bursa Sekuriti Palestin yang terdiri daripada 49 buah syarikat mengikut lima industri yang berbeza. Pengumpulan data dilakukan melalui borang soal selidik yang dihantar kepada pengurusan tertinggi dalam syarikat dan di analisis menggunakan *Partial Least Squares Structural Equation Modelling (PLS-SEM)*. Dapatan kajian menunjukkan bahawa PEU dan budaya nasional mempunyai pengaruh yang signifikan dan positif terhadap MCS. Di samping itu, MCS juga didapati mempengaruhi pembelajaran organisasi secara signifikan. Seterusnya, hasil kajian juga mendapati wujud hubungan yang signifikan dan positif di antara pembelajaran organisasi dengan prestasi organisasi. Akhir sekali, dapatan kajian turut menunjukkan bahawa pembelajaran organisasi merupakan pengantara separa di antara MCS dengan prestasi organisasi. Kesimpulannya, kajian ini telah memberikan dapatan penting tentang factor-faktor yang mempengaruhi MCS dan kesan MCS ke atas prestasi organisasi secara umum, dan secara spesifisiknya di Palestin. Dapatan kajian menyumbang kepada teoritikal, metodologikal dan praktikal, dan membuka ruang yang lebih luas untuk kajian lebih lanjut mengenai praktis MCS di Palestin dan negara-negara membangun yang lain di seluruh negara.

Kata kunci: sistem kawalan pengurusan, persepsi ketidakpastian persekitaran, budaya nasional, pembelajaran organisasi, prestasi organisasi

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Rabee M.A Shurafa

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LIST OF ABBREVIATIONS

MCS	Management Control System
PEU	Perceived Environmental Uncertainty
OP	Organizational Performance
OL	Organizational Learning
NC	National Culture
MA	Management Accounting
RBV	Resource Based View
BSC	Balanced Scorecard
PSE	Palestine Stock Exchange
PNA	Palestinian National Authority
LOC	Levers of Control
PLS	Partial Least Square
SPSS	Statistical Package for the Social Sciences
SEM	Structural Equation Model
CEO	Chief Executives Officer
CFO	Chief Financial Officer
CB-SEM	Covariance-Based Approach - Structural Equation Model
AMOS	Analysis of a Moment Structures
LISREL	Linear Structural Relations
EFA	Exploratory Factor Analysis
CFA	Confirmatory Factor Analysis
CR	Composite Reliability
AVE	Average Variance Extracted
VIF	Variance Influence Factor
f^2	Effect Size
R^2	Coefficient of Determination
Q^2	Predictive Relevance of the Model
GoF	Goodness of Fit of the Model
VAF	Variance Accounting For

CHAPTER ONE
INTRODUCTION

1.1 Introduction

This introduction chapter comprises eight sections that provide basic information about the present study. This chapter begins with the background of the study through which the issue of this study is highlighted. Next, the problem statement introduces both the practical issues and the gaps in the literature, followed by research questions and research objectives. This chapter also sheds light on the scope of the study, significance of the study, definition of the key terms, and finally the chapter concludes by providing the organization of the thesis.

1.2 Background of the Study

Management control systems (here after called MCS) represent an organization's means to achieve its objectives and to ensure its survival and growth through developing and maintaining viable behaviour pattern by providing useful information to assist in decision making, planning and performance evaluation (Anthony & Govindarajan, 2007; Merchant & Van der Stede, 2011; Otley, Broadbent, & Berry, 1995; Simons, 2000).

Simons (1995) described the concept of MCS as “the formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activity” (p. 5). Simons’s (1995) definition explains more than one control tool such as planning systems, reporting systems and monitoring procedures, which are based on information use (Henri, 2006). Accordingly, appropriate MCS should be designed

and implemented in a way that can assist in producing the most relative information in the right time in order to achieving organizational goals and objectives.

In this regard, previous studies have reported that MCS design is contingent upon the organization's contextual variables, which represent the dilemma of MCS design. This design dilemma occurs because of the existence of different organizational contexts. This hinders MCS designers in designing a single control system that can fit all organizations, with respect to the general rules and procedures used in various organizations such as budgets, recording performance, evaluation style, monitoring, reporting, rewards, among others (Chenhall, 2003; Harrison, 1992; Simons, 2000; Ueno & Wu, 1993; Van der Stede, 2002).

Studies on contingent-based research of MCS, differentiates these contextual variables in to internal and external factors. Examples of the external contextual variables include: perceived environmental uncertainty (hereafter called PEU) (Simons, 2013) and national culture (Chow, Shields, & Wu, 1999; Harrison & McKinnon, 1999). Examples of internal contingent factors include: organization size (Ezzamel, 1990), technology (Kalagnanam & Lindsay, 1999), product development (Davila, 2000), organizational structure (Ouchi, 1977), strategy (Langfield-Smith, 1997), corporate culture (Harris & Ogbonna, 2011). Such external and internal contextual variables and many other factors have obstructed the possibility to design a one-size-fits-all MCS for organizations.

Contingent-based research of MCS design has aimed to measure the impact of organizational contextual variables on MCS design in order to better understand

which design is more effective and suitable with respect to such contingent variables. For example, previous studies have given attention to the impact of PEU on performance evaluation (Hoque 2005), national culture characteristics on control tightness (Chow, Kato, & Merchant, 1996), technology in relation to internal and external monitoring (Ittner & Larcker, 1997), corporate size on budget characteristic (Ezzamel, 1990). This research have concluded that MCS must be adjusted to the organizational context in which a company works to achieve its objectives and to enhance its performance.

Because organizational performance enhancement is dependent upon MCS outcomes, viewing MCS outcomes in detail is necessary. One of those outcomes is organizational learning (Simons, 1990, 2013). Organizational learning at a basic concept means the development of prudence through the acquisition of new knowledge that has the potential to influence behaviour (Sinkula, 1994; Slater & Narver, 1995). In this context, effective MCS with assistance of resource based view theory (here after called RBV) can stimulate organizational learning, which, in turn, will enhance organizational performance through capturing sustainable competitive advantages that will maintain sustainable growth and development for a firm (Fiol & Lyles, 1985; Lord, 2014; Santos-Vijande, López-Sánchez, & Trespalacios, 2012; Simons, 1990).

The RBV provides the understanding that certain unique existing resources can result in superior organizational performance. This superior performance is the resultant of building sustainable competitive advantages (Conner, 1991; Rugman & Verbeke, 2002; Wernerfelt, 1984). In fact, RBV is considered as the basis of competitive

advantages by providing a bundle of tangible and intangible resources (Barney, Ketchen, & Wright, 2011; Conner, 1991). Hence, MCS should be design appropriately to derive organizational performance through improving organizational learning (Simons, 1995).

Therefore, this current research focused on MCS design with respect to its external and internal contingent variables to understand fully the influence of such contextual variables on MCS design. Those variables are: 1) Arab culture, as it is completely different from Western culture that largely represents the source of knowledge for control mechanisms and 2) the current PEU dominating the Palestinian environment that reflects Israeli occupation (Abuznaid, 2014; Kattan, Pike, & Tayles, 2007; Ojra, 2014).

Based on contingency theory and RBV theory, this research investigated the impact of Arab culture and PEU on MCS design. In addition, organizational learning as an MCS outcome was also investigated to examine its effects on organizational performance.

The above discussion highlights the background and issues that attract the researcher to study MCS and its antecedent variables in the Palestinian context. In the following section, the problem statement and the literature gaps will be discussed.

1.3 Problem Statement

Business organizations in the Arab world in general are suffering from the pressures of politico-economic uncertainty (Shurafa & Mohamed, 2016). Specifically, Palestine has been under the pressure of the politico-economic uncertainty for a long

time. The Israeli occupation brought political instability to the environment, which in turn, brought economic instability. Accordingly, due to the political instability, Palestine has unergone economic uncertainty, which may be combined into one term called politico-economic uncertainty. Under such uncertainty, Palestinian organizations face different kinds of challenges and instability that require effective control environment (Kattan et al. 2007). Unfortunately, different researchers have reported that Palestinian organization has a weak and inefficient control environment that hinders them in effectively facing the surrounding challenges and uncertainties (Abu-Haddaf, 2006; Sharaf, 2005). For instance, an investigation revealed that 84% of the Palestinian local authorities are working without efficient control systems, which, in turn, impairs their performance as well as putting them at risk of bankruptcy (Hamdan, 2014).

In addition to the governmental sector, the businesses sector also has the same control difficulties, that weakens them and lead to fluctuation in their performance. For example, financial performance analysis of the Palestinian listed firms under such politico-economic uncertainty reveals that 30% of the organizations have faced losses in the last five years, and another 10% have experienced continued losses without any chance to stop their losses or even to reach a break-even point during the period from 2010 to 2014 (See Appendix 2). Unfortunately, under such weak and fluctuated performance of the Palestinian organizations, limited studies have focused on the control approach of the Palestinian organizations to assist them in designing effective control environments to ensure their survival and growth.

Accordingly, an urgent need exists to study Palestinian control practices under the unique politico-economic uncertainty that has dominated the environment for decades, which, in fact, is one of the longest lasting politico-economic uncertainty in the world. In addition, it is also fundamental to understand the role of the Palestinian national culture in influencing the behaviour of top management in the design and use of MCS, especially under such long-term uncertainty that influences the national culture. Therefore, it is fundamentally necessary to examine how Palestinian organizations design and use their control systems under the influence of their unique environment and culture that has spent decades under the pressure of the politico-economic uncertainty. This examination is an essential step toward driving the performance of the Palestinian organizations.

In this context, a search of the previous literature reveals that under conditions of environmental uncertainty, effective MCS design can assist in enhancing organizational performance. However, such enhancement is based on the condition that the design harmonizes with the intrinsic and the extrinsic contextual factor to effectively confront the environmental uncertainty surrounding these companies. (Chenhall & Morris, 1986; Govindarajan, 1984; Khandwalla, 1972; Otley, 2012; Simons, 1990, 2013).

In fact, many studies have attempted to approach the difficulties of MCS design with respect to its contingent factors (Chenhall, 2003; Chow et al., 1999; Fisher, 1995; Otley & Wilkinson, 1988). Most of these studies have been fragmented in its nature wherein the researchers have focused on some parts of MCS and not on a holistic control approach, although it is well accepted in the literature that MCS is inter-

dependent (Bedford & Malmi, 2016; Merchant & Otley, 2006; Otley, 1999; Van der Kolk & Schokker, 2016; Widener, 2007). This narrow focus has hindered the ability of MCS literature to provide complete solutions to design effective MCS especially in terms of uncertainties.

In this context and against this background, Otley (1999) has suggested approaching the subject via a holistic perspective of control systems because different organizations may use different configurations of the control systems that have not all been encompassed in the previous research. Simons (2000) posited that "the power of levers of control as the holistic control approach does not lie in how each is used alone, but rather how they complement each other when used together" (p. 301). He argues that an integrated control environment effectively facilitates the search for competitive sustainability and strategy implementation to stimulate and control profitable growth. Thus, researchers should study a holistic approach instead of subparts of MCS, a perspective that has been omitted in most previous research (Haldma & Lääts, 2002; Hammad, Jusoh, & Ghozali, 2013; Janke, Mahlendorf, & Weber, 2014; Kattan et al., 2007; Samuelson, 1999). Accordingly, the current study approach levers of control as the holistic perspective of control systems that are considered strong enough to effectively design efficient control environments (Simons, 1990, 1995,2000; Widener, 2007).

However, limited studies have approach levers of control to understand how such a holistic control approach work under the pressure of different contextual factors (Widener, 2007, Henri 2006). Specifically, no research has been directed towards the

influence of political uncertainty as well as national culture by means of a holistic control approach such as levers of control.

Indeed, previous studies that have considered PEU initiated from politico-economic uncertainty have examined effects on cost accounting (Haldma & Lääts, 2002), budgeting, planning, strategic decision making and non-financial measures (Kattan et al., 2007). Whereas no research has been directed toward the influence of such uncertainty on the levers of control. Furthermore, cross-cultural studies in MCS have also omitted the holistic perspective of MCS and focused their attention on examining some parts of the MCS such as procedural controls (Chow et al.,1996), participative budgeting (Harrison, 1992), performance-based reward (Merchant et al., 1995), participative performance evaluation (O'Connor,1995), controllable budgets (Ueno & Wu, 1993), among others.

Moreover, previous cross-cultural researches of MCS have focused their attention on Western and developed countries such as the United States, Australia, Europe, Japan, Hong Kong and Singapore (Daley, Jiambalvo, Sundem, & Kondo, 1985; Harrison & McKinnon, 1999; Harrison, McKinnon, Panchapakesan, & Leung, 1994; Merchant, Chow, & Wu, 1995; Ueno & Wu, 1993). Even, some developing countries such as India, Indonesia, Malaysia, and China have received some attention (Ahmad & Alwi, 2004; Efferin & Hopper, 2007; Joshi, 2001). The missing part of this global MCS research is Arab countries (Dike, 2011).

Accordingly, the holistic approach of MCS under the pressure of politico-economic uncertainty as well as the influence of Arab national culture needs proper

investigation because no literature is available, which, in turn, hinders the understanding of how such contextual variable influences the design and the use of package control system such as levers of control specifically in the third world. To the best of this researcher's knowledge, politico-economic uncertainty and national culture have never examined before in the context of the levers of control, a gap hindering the ability to understand the best control techniques that can assist in designing better control systems.

Hence, the literature of MCS design has different kinds of research gaps that constitute obstacles to designing an effective control environment. This current study attempts to add a new cultural, economic and political view combined with the holistic approach of MCS to assist in filling the gap in the literature.

However, in addition to the existing literature gaps between MCS and its contextual factors as illustrated earlier, limited literature is available regarding the outcomes of MCS. Indeed, previous researchers have given little attention to the influence of MCS on stimulating and acquiring knowledge and experience that is essential for building organizational learning. In different words, little extant study exists about how MCS can collaborate with RBV to create a sustainable competitive advantage through acquiring knowledge and cumulating experiences represented in organization learning.

Moreover, previous researchers who have studied MCS and its impact on organizational learning have reported contradictory results, which also limits the ability to rely on previous research (Abernethy & Brownell, 1999; Henri, 2006;

Simons, 1990; Widener, 2007). This lack of attention and the contradictory results has impeded the ability to understand fully the impact of MCS on stimulating organizational learning as one of the most important ways to create an intangible competitive advantage that can drive better organizational performance.

Finally, organizational learning and its impacts on organizational performance in the context of developing countries and especially in the context of the Arab world have been neglected in the previous research. Furthermore, previous studies also given very limited attention to the possible mediating role of organizational learning between MCS and organizational performance. Studying the impact of MCS on organizational performance via the mediation role of organizational learning would assist in better understanding how MCS can drive organizational performance through building and sustaining competitive advantages that are fundamental in this competitive world.

Therefore, this research is aimed at filling the gaps that have been existed previously by using contingency theory and RBV theory through adopting levers of control as a holistic approach for MCS. By examining the impact of politico-economic uncertainty and Arab national culture on MCS, more knowledge and literature would assist in understanding Palestinian organizational design and their use of MCS. Furthermore, this knowledge and literature should help assist in understanding the sequence of influence of MCS on organizational learning along the way of enhancing the organizational performance of Palestinian organizations as well as any other organizations that operate and function under similar environment and culture.

1.4 Research Questions

In line with the background of the study and the problem statement discussed in the preceding section, this study is mainly designed to address the following core questions:

1. Does environmental uncertainty influence the design of MCS in the Palestinian listed firms?
2. Does national culture influence the design of MCS in Palestinian listed firms?
3. Does MCS stimulate organizational learning in Palestinian listed firms?
4. Does organizational learning influence organizational performance in Palestinian listed firms?
5. Does organizational learning mediate the relationship between MCS and organizational performance in the Palestinian listed firms?

1.5 Research Objectives

The primary objective of this study is to test the research model consisting of five main variables: PEU, national culture, MCS, organizational learning, and organizational performance, in the Palestinian listed firms. Therefore, according to the aforementioned research questions, the following specific objectives are developed to:

1. To examine the influence of the environmental uncertainty on MCS design in Palestinian listed firms;
2. To examine the influence of national culture on MCS design in Palestinian listed firms;
3. To examine the influence of MCS on organizational learning in Palestinian listed firms;

4. To examine the influence of the organizational learning on organizational performance in Palestinian listed firms; and
5. To examine whether organizational learning mediates the relationship between MCS and organizational performance in Palestinian listed firms.

1.6 Significance of the Study

This research contributes to the body of knowledge through improving the theoretical, methodological and practical knowledge of MCS research with respect to its contextual variables. In addition, the study adds to the literature concerning the impact of MCS on organizational learning and the results of this relationship to organizational performance. Furthermore, it adds the mediating role of the organizational learning between MCS and organizational performance in the context of the developing economy. This can be further divided into theoretical, methodological and practical significance as illustrated below:

1.6.1 Theoretical Significance

This study provides a significant theoretical contribution in the area of MCS design and its outcome, namely, organizational learning. From the theoretical perspective, this study contributes to the literature in several ways. This is achieved by stressing several factors that might influence the organizational performance, which are PEU (political uncertainty, competition uncertainty, operational uncertainty and technological uncertainty), national culture (high uncertainty avoidance, collectivism, and high power distance), and a holistic approach of MCS design (beliefs, boundary, diagnostic and interactive control system) and the mediating variable (organizational learning).

In this context, significance contributions can be derived from the study of these variables. First, national culture and political uncertainty in the context of MCS design have received negligible attention in previous MCS research (Dik, 2011; Kattan et al., 2007; Ojra, 2014). Generally, for the first time the current study will add to the existing knowledge by examine the effect of national culture characteristics and political uncertainty on levers of control.

Hence, the adoption of a holistic MCS approach through the levers of control is an important contribution of this study as most of the previous research studied only parts of MCS and did not utilize a holistic approach (Haldma & Lääts, 2002; Hammad et al., 2013; Janke et al., 2014; Kattan et al., 2007; Samuelson, 1999).

Second, the relationship between MCS and organizational learning has received little attention in the previous literature, the results of which have exhibited contradictory results (Abernethy & Brownell, 1999; Henri, 2006; Simons, 1990; Widener, 2007). These deficiencies have raised the need to re-examine whether levers of control stimulate organizational learning. In addition to this, for the first time this study will add to the existing knowledge by demonstrating how MCS influences organizational performance via mediating role of the organizational learning in a distinct context namely, the Arab world.

Based on what has been put forward and for better theoretical contribution, this research uses two underpinning theories, namely, contingency theory and RBV theory. Hence, significant contribution will be added to the previous literature by examining the ability of these theories to work in different cultures and especially

under high level of environmental uncertainty. Although these theories have been tested in developed economies, little attention has been given with respect to developing countries. Thus, the adoption of contingency theory can assist in understanding the association between MCS and its antecedent factors (i.e., PEU and national culture), while RBV theory can assist in understanding the direct influence of MCS on organizational performance as well as the indirect influence via mediating role of the organizational performance.

1.6.2 Practical Significance

This study contributes to the MCS designers through the explanation regarding the influence of PEU and Arab culture on MCS design, which will assist companies design effective MCS, that cannot be done successfully without the inclusion of all the angles of organizational performance. In addition to MCS design, the findings of this study will assist top management to better understand the ability of MCS to stimulate organizational learning and to build unique competitive advantages to sustain success and growth especially in a highly uncertain environment.

Therefore, the holistic approach of MCS in this study will provide clearer explanations and knowledge for two groups: 1) first, for MCS designers to design better MCS with respect for its contingent factors and 2) second, for top management to build competitive advantages through the exploitation of organizational learning and convert that knowledge to sustainable competitive advantages. In the current competitive business environment, having a sustainable competitive advantage for a better organizational performance is imperative.

1.6.3 Methodological Significance

In addition to theoretical and practical significance, methodological significance is also a significant part of this research for many reasons. First, this research conducted in an area formerly neglected by research, i.e., political uncertainty and national culture. Second, this research used quantitative methods. Survey questionnaires distributed to the top management in order to generalize the results and to gather information from the most pertinent sources. In this context, previous studies in Palestine, such as Kattan et al. (2007) have taken a case study based approach to MCS design in one private company, which hinders the possibility of generalizing the findings. Hence, a using quantitative method via survey questionnaires can assist in generalizing the results of this study. Third, the population of this study covers all sectors, which again can assist in generalizing the results. Finally, using PLS-SEM to analyse collected data gave the researcher the ability to be more accurate in measuring the relationships between and among the research variables.

1.7 Scope of the Study

This study focuses on the studying of the relationship among five main variables: 1) MCS, 2) PEU, 3) national culture, 4) organizational learning and 5) organizational performance. Levers of controls have been used as a holistic approach to MCS that made up of four control dimensions including: 1) beliefs system, 2) boundary systems, 3) diagnostic control and 4) interactive control. The dimensions of PEU used in this study are political, competitive, operational and technological uncertainty. In addition, three national culture dimensions applicable to the Arab culture have been used for the purpose of this study, which are 1) collectivism, 2)

power distance and 3) uncertainty avoidance as suggested by (Dik, 2011; Hofstede, Hofstede, & Minkov, 2010).

To meet the research questions and objectives of this study, this research was conducted in Palestine as one of the Arab countries in which politico-economic uncertainty dominates (Kattan et al., 2007; Ojra, 2014; C. Smith, 2013), which gave the study significance scope and area. Data were collected from firms listed on the Palestine Stock Exchange distributed in five sectors including: 1) banking, 2) insurance, 3) investment, 4) services and 5) industrial sector (Abu-Libdeh & Harasheh, 2011; Alkhatib & Harasheh, 2014). Furthermore, the present study employed a quantitative cross-sectional research design, in which the questionnaire was the main tool for data collection.

The relationships of the study variables under investigation were considered from the perspective of top management of the firms, thus the sample was limited to the Chief Executives Officer (CEO) and Chief Financial Officer (CFO) as they would be in a better position to know about their MCS as well as the surrounding environment. Chapters Three and Four detail the research framework and the hypotheses development process.

1.8 Definition of Key Terms

For a better understanding of the research, it is necessary to familiarize with the key terms used in the study. The following terms will be used in the dissertation and are a key for a better understanding of the subject matter.

Management Control System: "MCS are the formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activity" (Simons, 1995, p. 5).

Beliefs System. "The system that used to inspire and direct the search of new opportunity". (Simons, 1995, p. 7).

Boundary System. "The system used to set limits on opportunity seeking behaviour". (Simons, 1995, p. 7).

Diagnostic Control System. "The system used to motivate, monitor, and reward achievement of specified goals". (Simons, 1995, p. 7).

Interactive Control System. "The system used to stimulate organizational learning and the emergence of new ideas and strategies". (Simons, 1995, p. 7).

Environmental Uncertainty: This is "an unexpected event or set of condition that significantly reduce the ability of managers to implement their intended strategy" Simons (2000, p. 225).

National Culture: "The collective programming of the mind that distinguish the member of one group or category of people from each other". Hofstede et al. (2010, p. 6).

Uncertainty Avoidance: "The extent to which the members of a culture feel threatened by ambiguous or unknown situation" (Hofstede et al., 2010, p. 191).

Power Distance: "The extent to which the less powerful member of institutions and organizations within a country expect and accept that power is distributed unequally" (Hofstede et al., 2010, p. 61).

Collectivist culture: "Societies in which people from birth onward are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty" (Hofstede et al., 2010, p. 92).

Organizational Learning: "A process by which organization as collectives learn through interaction with their environment" (Sinkula, 1994).

Organizational performance: "Is measurable by either a number or an expression that allows communication " (Neely, 2002).

1.9 Organization of the Thesis

This thesis comprises six chapters, including the current chapter. Chapter Two contains the literature review discussing the key research on how PEU (political, competitive, operational, and technological uncertainty), and national culture (high uncertainty avoidance, collectivism, and high-power distance culture) influence MCS design. In addition, the relationship between MCS and organizational learning as well as the impact of organizational learning on organizational performance are also presented.

Chapter Three includes the conceptual framework and the hypotheses development that intended to test in this thesis.

Chapter Four presents the methodology of the research, which comprises the design of the study, population and sampling, variables measurements, data collection, pilot study and the statistical method to analyse the data.

Chapter Five presents data analysis and findings. Finally, Chapter Six concludes the study by summing up the findings and discussing the contribution, limitation, and recommendation for future research.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature that is relevant to the research area. This chapter comprises of nine main sections. The first section discusses MCS with respect to its contingent variables. Section two presents the underpinning theories that are suitable for this study. Sections three and four discuss the PEU and national culture respectively as contingent factors in MCS design. Sections five discusses the relationship between contingency factors and MCS design. Sections six and seven emphasize organizational learning and organizational performance respectively. Finally, research justifications based on the previous literature presented in the previous sections are presented in section eight, and the chapter's conclusion appears in section nine.

2.2 Management Control Systems (MCS)

The term MCS, management accounting (MA), management accounting systems (MAS), management accounting control systems (MACS), organization control (OC), accounting control systems (ACS) as a part of an internal control (Abernethy & Chua, 1996) or organization control systems (OCS) are used worldwide interchangeably (Chenhall, 2003), although there some differences exist between them in practice. However, this study will use the term MCS as the most modern control term.

2.2.1 Management Control Systems (MCS) Definition

The control concept, which is represented as a fundamental to an organization (Green & Welsh, 1988), has been defined by management theorists such as Emerson,

Church and Taylor (Dahlgaard-Park, 2008) and has been treated and interpreted in literature in many different ways.

Hence, several definitions and descriptions exist to assist in understanding the meaning and the purpose of MCS. Some of these definitions overlap, and some are similar to each other, while others are quite different (Malmi & Brown, 2008). These differences in the definitions came as a natural result of the selection of certain control approach by theorists and experts and the evolutionary aspect of the theories when they reviewed from a historical perspective (Dahlgaard-Park, 2008).

However, the substantial number of definitions opted for by different researchers has continued to create confusion in the field of study. As a result of these multiply definitions, most control researchers have accepted that the control concept means different things for different people and different contexts and is dependent on the operational definition chosen for each individual study (Chua, Lowe, & Puxty, 1989; Malmi & Brown, 2008).

Herath (2007) attempted to provide a simple meaning of control. He stated, “Control means a comparison between the planned and actual performance together with identifying possible corrective actions” (p.897) This corresponds with the view of Merchant (1985), who described the function of MCS as keeping things on track, which stress the existence of plans, standards and feedback to measure and compare actual to desired outcomes.

Fisher (1998) provided another simple definition. He stated that control refers to ensuring that activity will produce the desired results. This focus gives attention to control practices such as monitoring activities outcomes, reviewing feedback information of the outcomes and taking corrective actions where necessary.

Anthony (1965) was among the earlier authors who defined MCS as “the process by which managers ensure that resources are obtained and used effectively and efficiently in the accomplishment of the organization’s objectives” (p. 17). This definition separates management control from strategic control and operational control (Langfield-Smith, 1997).

Management control literature shows that researchers during 1960-1970 built on Anthony's and others work to develop the concept of MCS. Simons (1995) considered Anthony’s definition to be derived from an old perspective, and he defined the concept of MCS as “the formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activity” (p. 5). This definition utilizes more than one control tool such as planning systems, reporting systems and monitoring procedures, which is based on information use (Henri, 2006).

However, as a result of implementing these definitions, many procedures and tools exist to support information for the core activities such as planning, budgeting, competitor analysis, resource allocation, environment scanning, cost control and employee reward. Control is also defined by the function as strategy implementer. The argument made was, that without appropriate control, execution of strategy

could be impossible (Herath, 2007). Including, Anthony (1988, p. 10) defined management control as "the process by which managers influence other members of the organization to implement the organization's strategies" (p. 10).

This definition stresses employees' behaviour as a focal point in MCS, and this point of view also appears in Flamholtz et al.'s (1985) definition. They stated, "Organizational control refers to the process of influencing the behaviour of people" or "mechanisms (both processes and techniques) designed to increase the probability that people will behave in ways that lead to the attainment of organizational objectives" (p. 38). Although experience and common sense tell us that influence does not guarantee control (Green & Welsh, 1988), this broad definition of control can lead to a consideration of many organizational attributes as a control (Fisher, 1998).

Merchant (1985) described organizational control as a systematic process through which managers regulate organizational activities to make them consistent with the expectations established in plans and to help them achieve all predetermined standards of performance, which stress on the systematic way of control achieved through regulation, plan and standard.

In conclusion, all of these definitions are in agreement that control includes the exercise of power, which means to influence, to secure sufficient resources and to reach a point of coordination for individuals and a group (Alvesson & Kärreman, 2004; Langfield-Smith, 1997). The similarities in those definitions maybe treated as

the core concept of the management control while the differences could be related to evolutionary aspects of the management control theories (Dahlgaard-Park, 2008).

2.2.2 Management Control System Mechanisms (Techniques)

The literature of MCS shows that many mechanisms are in use all over organizations. Some of those mechanisms are the same with mere differences in their name, while others are completely different. However, as this study concern about the holistic approach of MCS, this section will presents Malmi and Brown (2008) package of control, Merchant (1982) control framework and Simons (1995) levers of control respectively.

2.2.3 Malmi and Brown (2008) Control System

Based on the work of Brown (2005), a conceptual typology of an MCS package was introduced. The typology was developed by analysing and synthesising nearly four decades of MCS research. This MCS structured around five groups: planning, cybernetic, reward and compensation, administrative and cultural controls. The typology is based on the distinction between decision-making and control and addresses those controls managers use to direct employee behaviour.

1. Planning. Ex-ante form of control. This type of control has three main steps includes: first it sets out the goals of the functional areas of the organisation thereby directing effort and behaviour; second, it provides the standards to be achieved in relation to the goal, making clear the level of effort and behaviour expected; third, it enables congruence by aligning goals across the functional areas of an organisation, thereby controlling the activities of groups and individuals.

This planning control includes action planning-goals and actions for the immediate future, usually a 12-month period, are established; has a tactical focus. Long-range planning-the goals and actions for the medium and long run are established; has a more strategic focus.

2. Cybernetic. There are five characteristics of cybernetic control. First, there are measures that enable quantification of an underlying phenomenon, activity or system. Second, there are standards of performance or targets to be met. Third, there is a feedback process that enables comparison of the outcome of the activities with the standard. This variance analysis arising from the feedback is the fourth aspect of cybernetic control systems. Fifth is the ability to modify the system's behaviour or underlying activities. This cybernetic control includes: budgets financial measures, non-financial measures, hybrids that contain both financial and non-financial measures such as the Balanced Scorecard (BSC).

3. Reward/Compensation. Motivating and increasing the performance of individuals and groups through attaching rewards to control effort direction, effort duration, and effort intensity. This type of control attaching rewards and or compensation to achievement of goals.

4. Administrative. Administrative control systems are those that direct employee behaviour through the organizing of individuals (organisation design and structure), the monitoring of behaviour and who employees are made accountable to for their behaviour (governance); and through the process of specifying how tasks or behaviours are to be performed or not performed (policies and procedures). This type of control depends upon three main issues that will assist in performing the

administrative control includes: organisational design and structure, governance structures within the firm, and procedures and policies.

5. Organizational Culture. The values, beliefs and social norms which are established influence employee's behaviour. Culture is a control system when it is used to regulate behaviour. In this kind of control three aspects of cultural control that intended to convert organizational culture to effective control environment; value-based controls, symbol-based controls, and clan controls.

Overall, in Malmi and Brown (2008) Control System, cultural controls are at the top of their control package to indicate that they are broad, yet subtle controls. They are assumed to be slow to change, thus, providing a contextual frame for other controls. In the middle of their control framework are the planning, cybernetic, and reward and compensation controls. These are assumed to be tightly linked in many contemporary organisations, and are presented in temporal order from left to right. At the bottom are administrative controls which create the structure in which planning, cybernetic, and rewards and compensation control are exercised.

2.2.4 Merchant's (1982) Control Mechanisms

Merchant (1982) suggested three control mechanisms, which are 1) control specific action, 2) results control and 3) personal control. These control systems are highlighted next.

1. Control Specific Action. The aim of this kind of control is to ensure that "Individual performs (or does not perform) certain actions that are known to be

desirable (or undesirable)" (Merchant,1982, p. 147). Management can implement this type of control through imposing limits on organizational participants through codes of conduct, policies and procedures, budget review, approval limits, direct supervision, physical and administrative constraint.

2. Results Control. The focus of this type of control is directed toward results**,** output and performance: "this type of control comes in only one basic form, results accountability, which involve holding employees responsible for certain results" (Merchant,1982, p. 148).

3. Personal Control. These types of control focus management attention on employees themselves. This control can be implemented through upgrade capabilities, improve communication and encourage peer control. Upgrade capabilities may include employee selection, training and assignment. Improvement in communication may be achieved through clarifying expectations and provide information for coordination. Encourage peer control may be achieved through work group and shared goals (Merchant,1982).

Overall, the control function of management can be a critical determinant of organizational success. As explained earlier Merchant's (1982) control mechanisms consists of different control systems (i.e., control specific action, results control and personal control system) that can verifying whether everything occurs in conformities with the plans adopted, instructions issued and principles established. Those systems assist top management to ensures that there is effective and efficient utilization of organizational resources so as to achieve the planned goals.

Furthermore, Merchant's (1982) control mechanisms help the top management in measuring the deviation of actual performance from the standard performance, discovers the causes of such deviations and helps in taking corrective actions.

2.2.5 Simons' (1995) Levers of Control (LOC)

The levers of control framework emerged after Simons conducted more than one hundred case studies (Jamil & Mohamed, 2011). The LOC framework comprises four sequential control systems: 1) beliefs system, 2) boundary system, 3) diagnostic controls, and 4) interactive controls. The beliefs system (the first system) is considered to be the fundamental base that the firms must start with to design the remaining three systems effectively. Simons (1995c) described beliefs system as "the explicit set of organizational definitions that senior managers communicate formally and reinforce systematically to provide basic values, purpose, and direction for the organization" (p. 34). A belief system is used to communicate the core values of an organization to inspire and motivate its members to search, initiate, create, explore, and expand their efforts to engage in useful and appropriate actions. On the other hand, this expansion of actions also correlates with the probability of engaging in high-risk activities, which raises the need to impose limits and restraints on activity searching behaviour.

These limits and constraints are termed the boundary system, which works in an opposite manner to the beliefs system. A boundary system must be designed based on the beliefs system to set the most accurate limits and constraints to keep the positive energy of beliefs systems under control and that is the starting point of the sequential design of LOC framework. A boundary system "delineates the acceptable domain of strategic activity for organizational participants" (Simons, 1995, p. 39).

The idea behind the boundary system is to communicate clearly the actions and/or behaviours that the organizational members should avoid. Its purpose is to allow employees the freedom to search, initiate, and innovate within certain pre-defined areas.

In fact, both boundary and beliefs systems are similar to each other because both systems are intended to motivate organization members to search and initiate new ways of survival and growth. However, a boundary system does so in a negative manner through its limits and constraints of behaviour, whereas a beliefs system does so in a positive manner through inspirational energy (Simons, 1995). Firms often communicate their beliefs through their mission or vision statement and their boundaries through a code of conduct.

After ensuring that both beliefs and boundary systems are well designed and fit the organizational context, the sequence of LOC framework is ready to move to the third system, which is responsible for measuring and communicating critical success factors that are embedded in the diagnostic system. The aim of the diagnostic system is to motivate organization members to align their performance and behaviour with organizational objectives. It reports fundamental information that allows managers to focus their attention on monitoring critical success factors for the firm to attain its intended strategy. The diagnostic system is considered to be the backbone of MCS, as it enables managers to benchmark organizational performance against targets. Both boundary and diagnostic systems are similar in imposing constraints on employee behaviour (Simons, 2000). Diagnostic control is responsible for measuring critical success factors by allowing managers to manage results on an exception

basis. This leads the MCS designer to start thinking about becoming forward looking by interactive use of MCS.

An interactive control, as the last system in the LOC framework, allows this forward-looking as it is characterized by active and frequent dialogue among top managers (Widener, 2007). Interactive control enables top managers to engage personally in monitoring the outcome of any previous systems, to stimulate search and learning for new ways to strategically position itself in a dynamic and uncertain marketplace. Simons (1995) noted that an interactive control system is not a unique type of control system: "many types of control systems can be used interactively by senior managers" (p. 96). Choosing which control to be used interactively depends on the strategic uncertainty level, source, type, and its possible influence. Some strategic uncertainty requires beliefs system to be used interactively, while others use the boundary system interactively, whereas yet other uncertainties require a diagnostic system to be used interactively, especially with respect to the use of a performance measurement system (PMS) embedded in a diagnostic system.

The above overview of MCS design using LOC framework illustrates the logical sequence during the design process. That implies that MCS designers must start first with the beliefs system, following by the boundary system and then diagnostic control. Once those three control systems have been designed, top managers can choose which control system to be used interactively to personally monitor strategic uncertainty (Simons, 1990). All the sequences of those systems are required during MCS design, but once completed all systems work together.

Overall, previous literature accepts that control systems cannot be separated to effectively implement control system and that means control systems are interdependent (Merchant & Otley, 2006; Otley, 1999; Widener, 2007). Thus, the framework of the levers of control as shown earlier represent a holistic perspective of control system, starting from beliefs to the boundary and then diagnostic to determine which of those systems to be used interactively. Therefore, levers of control can afford an effective and complete control environment as it consists of different control systems that work together to provide efficient control practices.

The next section will discuss the similarities and differences between the holistic control approach of Simons (1995), Merchant (1982), and Malmi and Brown (2008). The purpose of the following comparison is to decide which of those control framework is more appropriate for the purpose of the current study.

2.2.6 The Similarities and Differences Among Merchant (1982), Malmi and Brown (2008), and Simons (1995) Control Framework

A comparison of the results among and between the Merchant (1982) control framework, and Simons (1995) levers of control, and Malmi and Brown (2008) package of control revels that some systems in these frameworks are similar to each other although they have different names and some are more detailed and some are completely different. For example, personal control of Merchant (1982) and diagnostic control of Simons (1995) look to control organization through budget, standard, feedback and MBO. Furthermore, both systems address employees control through employee selection, training and assignment, encourage peer control and provide information for coordination. Moreover, the essence of Merchant's (1982) personal control was also covered by the beliefs system of Simons (1995) as both

systems are intended to inspire and guide organizational searches for new opportunities and determine the types of problems to tackle and the search for solutions.

The action control of Merchant (1982) was covered by the boundary control system of Simons (1995) as both systems impose control through constraints, accountability and review. Accordingly, both work as boundaries between desired and undesired actions. Finally, the interactive control of Simons (1995) was missing in Merchant's (1982) control framework, although it was mentioned slightly under personal control. In fact, interactive control is one of the unique features in Simons' (1995) levers of control as this kind of control assists in stimulating search and learning, allowing new strategies to emerge as participants throughout an organization's response to perceived opportunity and threats. Based on the above review, the holistic control approach of Simons (1995) was found to be more detailed than Merchant's (1982) control framework.

However, as Simons (1995) was found to be more detailed than Merchant's (1982) control framework another comparison between Simons' (1995) lever of control and Malmi and Brown's (2008) package of control is required to choose one of those two systems. Accordingly, comparative results show that some systems in both frameworks are like each other and some are more detailed and some are different. For example, the diagnostic system of Simons (1995) that responsible about setting appropriate plans and budget as well as measuring and communicating critical success factors can cover the cybernetic system and plan system of Malmi and Brown (2008). Plan systems are responsible for setting plans, whereas cybernetic

system account for feedback processes that enable a comparison of the outcome of the activities with the standard, which is the essence of diagnostic system.

Beliefs, boundary and diagnostic systems of Simons (1995) together can also cover administrative control systems of Malmi and Brown (2008). Those systems are responsible about motivating organizational members to align their performance and behaviours with organizational objectives, which is the fundamental role of administrative control of Malmi and Brown (2008). However, beliefs system of Simons (1995) can also cover the reward and compensation system of Malmi and Brown (2008) as both systems are accountable for motivating and increasing the performance of individuals.

Furthermore, because Simons (1995) developed the concept of value controls through what he described as belief systems, this also cover the culture control of Malmi and Brown (2008). Finally, the interactive control systems of Simons (1995) is missing in Malmi and Brown's (2008) package of control although it was briefly mentioned in administrative control of Malmi and Brown (2008). Indeed, an interactive control system is fundamental system as it demonstrates the leadership skills of the top management.

Based on the above review, it was found that Simons (1995) levers of control cover both Merchant's (1982) control framework and Malmi and Brown's (2008) package of control. Therefore, Simons (1995) levers of control has been chosen in this study to investigate how Palestinians listed firms design and use their holistic control system specially under the pressure of the PEU that dominating their environment

since decades. However, Simons' (1995) levers of control can be compared to Merchant's (1982) control framework as well as to Malmi and Brown (2008) package of control as illustrated in Table 2.1.

Table 2.1
Comparison among Merchant's (1982), Malmi and Brown's (2008), and Simons' (1995) Control Frameworks

Control Systems	Control Purposes	Similarities & Differences
Diagnostic control, Simons (1995) Result control, Merchant (1982) Cybernetic control, Malmi and Brown (2008)	Motivate organization members to align their performance and behaviour with organizational objectives. It reports fundamental information that allows managers to focus their attention on monitoring critical success factors for the firm to attain its intended strategy.	All systems are similar with differences in name.
Action control, Merchant (1982) Boundary control, Simons (1995) Administrative control systems, Malmi and Brown (2008).	These systems impose control through constraints, accountability and review. Both work as boundaries between desired and undesired action.	Systems are similar with different name, but administrative control more detailed.
Personnel control, Merchant (1982) Diagnostic control, Simons (1995) Administrative control systems, Malmi and Brown (2008).	Direct employee behaviour through the organizing of individuals and groups. Includes employee selection, training and assignment, encourage peer control and provide information for coordination.	Systems are complementing each other.
Personnel control, Merchant (1982) Beliefs system, Simons (1995) Reward and compensation system, Malmi and Brown (2008)	Motivating and increasing the performance of individuals and groups by achieving congruence between their goals and activities and those of the organisation. Inspire and guide organizational search for new opportunity and determine the types of problems to tackle and the solution to search.	Beliefs system is more in detailed than both systems personal control and reward and compensation regarding inspire organizational search for new opportunity as well as for problem solving.

Table 2.1 (Continued)

Control Systems	Control Purposes	Similarities & Differences
Beliefs system, Simons (1995) Culture control, Malmi and Brown (2008)	Developed the concept of value controls.	Both systems are responsible about pumping positive energy in the organization.
Interactive control, Simons (1995)	Stimulate search and learning, allowing new strategies to emerge as participants throughout the organization respond to perceived opportunity and threats.	This type of control is missing in Merchant (1982) and Malmi and Brown (2008) package control although it was slightly mention by Malmi and Brown (2008) in the administrative control.

2.3 Underpinning Theories

This following section will explain and review the underpinning theories that have been adopted to achieve the aim of this study. Two theories were selected for application. The first theory is contingency theory, which is applied to discuss MCS design under its contextual factors, namely, PEU and national culture. The second theory is the resource-based view (RBV), which is utilized to discuss the role of MCS in stimulating organizational learning for creating intangible competitive advantages through focusing on learning and the accumulated experiences. Accordingly, by using the essence of RBV this study theoretically and empirically links MCS with organizational learning to derive organizational performance. However, more details about the role of each theory in this study is illustrated further below.

2.3.1 Contingency Theory

A contingency theory is an organizational theory that claims that there is no best way to organize a corporation, to lead a company, to control a company, or to make decisions. Instead, the optimal course of action is contingent (dependent) upon the

internal and external contingent factors (Otley, 1980; Chenhal, 2003; Emmanuel, Otley, & Merchant 1990; Fisher 1995).

The essence role of the contingency theory in MCS is that the design and use of control systems is contingent upon the context of the organizational setting in which these controls operate (Ahrens & Chapman, 2007). A better match between the MCS and the contextual contingency variable is hypothesized to result in increased organizational (individual) performance. Contingency theory arose in response to the universalistic approach that argues that optimal MCS design applies in all settings and firms (Chapman, 1997; Chenhall, 2003; Gerdin & Greve, 2004; Grabner & Moers, 2013; Otley, 2016).

Given the empirical evidence of contingency control relationships, the universalistic view does not appear to be a valid description of control systems. At the other extreme, the situation-specific approach argues that the factors affecting each control system are unique so that general rules and models cannot be applied (Gordon and Miller (1976). Hence, the contingency-based approach of MCS research argues that management and control effectiveness is contingent, or dependent, upon the interplay between the application of management behaviors and specific situations. In other words, the way you control should change depending on the circumstances. One size of MCS does not fit all (Chenhall, 2003; Fisher 1998).

Thus, according to contingency theory, the appropriateness of different MCS depends on the business situation. However, in contrast to the situation-specific

model, control system generalizations can be made for major classes of business settings (Fisher, 1998).

As a result, contingency-based research in MCS design has a long tradition (Chapman, 1997; Chenhall, 2003; Gerdin & Greve, 2004; Grabner & Moers, 2013; Otley, 2016). Many studies conducted using contingency theory have sought to understand the impact of such variables on MCS design. This includes both internal and external factors. For example, internal contingent factors that have been examined are size (Merchant, 1981), organization structures (Gerdin, 2005), technology (Khandwalla, 1977; Merchant, 1984) and strategy (Simons, 1990). However, Chenhall (2003) argued that strategy has some differences from other contingency variables. External contingent variables also have been examined in relationship to MCS style including environmental uncertainty (Hammad et al., 2013), national culture (Chow et al., 1999; Efferin & Hopper, 2007; Harrison et al., 1994), as well as many other variables.

The literature further reveals that contingency theory has become a situational organization theory to assist organizations in their structure and design (Kattan et al., 2007). Therefore, Anthony, Dearden, and Vancil (1972) concluded that the effectiveness of MCS is highly situational and should be a complete system to fully control an organization. This perspective means that each part of the system must account for the most related contingent variables and priorities between those contingent variables.

Therefore, understanding contingent factors will enable MCS designers to deal more effectively to fit a specific organizational context (Bhimani, 1999; Chenhall, 2003) which will further improve organizational performance. However, as this study is concerned about contingent factors that surround any organization in which it carries its activities, contingency theory is useful in studying the impacts of PEU and Arab culture on MCS design. Therefore, contingency theory has been chosen to be the primary theory of the current study to give an in depth understanding regarding the influence of the organization contextual factors on its control and performance.

2.3.2 Resource Based View Theory (RBV)

The RBV provides the understanding that certain unique existing resources can result in superior organizational performance (Conner, 1991; Rugman & Verbeke, 2002; Wernerfelt, 1984). This superior performance is the result of building sustainable competitive advantages. In fact, RBV is considered as the basis of competitive advantages by providing a bundle of tangible and intangible resources (Barney, Ketchen, & Wright, 2011; Conner, 1991). Hence, to sustain competitive advantages, firms must transfer short-run competitive advantages into sustainable ones. This means having superior resources within a heterogeneous industry, ex-post facto limits to competition, imperfect resource mobility, and ex-ante limits to competition (Peteraf, 1993).

Therefore, the rule of strategic management is to focus on developing or acquiring resources that are costly-to-copy giving the organization a differentiating factor upon which to capitalize (Conner, 1991). Under this concept, companies must keep looking to acquire certain resources that effectively can be translated into valuable

resources that are perfectly neither imitable nor sustainable without great management efforts. If these two conditions are present in any company, the resource bundle can make a firm's returns above the average because of its sustainable competitive advantages.

Amit and Schoemaker (1993) divided a firm's resources into two types to assist in capturing and managing organizational resources to fulfil the objectives of building sustainable competitive advantages. First, these include resources that any company uses such as raw material, products, or parts, among others, that also known as traditional resources used in the production process or any other resources that could be used in providing products and services. Second, these include organizational capabilities such as organizational learning, human resources, or organization culture, among others. Conceptually speaking, company resources are tradable and non-tradable. Examples of non-tradable resources are: management style, firm reputation, and organizational learning, whereas tradable resources as mentioned earlier are: raw material, products, parts, among others tradable resources that are directly used for sale or for production process.

The distinctions between resources and capabilities that constitute RBV has been widely accepted and applied in previous RBV literature and research (Barney, Wright, & Ketchen, 2001; Conner & Prahalad, 1996; Makadok, 2001). A major question that arises is what constitutes organizational capabilities as an important part of organizational resources that generate competitive advantages. Makadok (2001) attempts to answer this question by defining capabilities as "a specific type of resource, specifically an organizationally embedded non-transferable firm-specific

resource whose purpose is to improve productivity of the other resources possessed by the firm" (p. 389).

Thus, organizations build their capabilities through acquiring or building distinguishable resources that can transfer organizational performance from their current performance to a higher point by understanding the relationship between resources and capabilities. Companies should acquire resources that can build the desired capabilities to compete through building sustainable competitive advantages. Makadok (2001) described this process by explaining the relationship between a firm's resources and its capabilities by stating that resources are stock-available factors that are owned or controlled by the organization, and capabilities are an organization's capacity to deploy resources.

Thus, companies must acquire resources that can enhance their differentiating capabilities. Acquiring the appropriate resources in this competitive world is an essential task for any company to ensure sustainable growth and development. Therefore, organizational learning as the mediator of this study is one of the critical elements that constitute organizational capabilities. Additionally, firms should develop their learning continuously to assist in implementing their strategies and plans as well as to confront any difficulties that may arise, especially in an uncertain business environment. This requires a deep understanding of the organization and its capabilities. Hence, understanding an organization and its capabilities plays an important role in this competitive world.

Barney et al. (2001) confirms that RBV is one of the most prominent and powerful theories for understanding organization. RBV provides a powerful framework to assist any company in evaluating and determining which resource can raise its competitive advantage to generate above average returns, which provides a good answer as to why the performance of firms varies systematically in the same industry over time (Hoopes, Madsen, & Walker, 2003).

RBV has been applied and tested in many different fields to evaluate its ability to equip firms with the appropriate resources that can create sustainable competitive advantages. RBV has successfully proven its potential in enhancing organizational performance through creating ongoing competitive advantages. Therefore, RBV was applied in the current study to examine the ability of MCS as an organization's intangible resource to build and sustain competitive advantage by stimulating organizational learning to ultimately enhance the organizational performance.

2.4 Perceived Environmental Uncertainty (PEU)

Uncertainty is one of the most recent issues studied in MCS as Otley (2012) highlighted this factor as an issue in the fast and continuous changes in a business environment. Companies all over the world are facing some level of uncertainty, especially in the last two decades (Hoque, 2005). Uncertainty has been driven by factors such as operational technology, relationships with both customers and suppliers, an increasing number of competitors, market demand, customer preferences, distribution channels, globalization, legislation, and political conflicts (Hamel & Prahalad, 1994; Hoque, 2005; Kattan et al., 2007; Miles & Snow, 1978).

Therefore, the external environment is viewed as a complex system of many interrelated markets, political, social, technological and economic variables, which creates an ongoing problem for top management (Davis, Morris, & Allen, 1991; Kattan et al., 2007; Milliken, 1990). Adaptation to those complex, dynamic and threatening variables has become more problematic than ever before and not easy to control as many researchers have argued (see for example, Babatunde & Adebisi, 2012; Lane & Maxfield, 1996; Mason, 2007).

Perceiving and acting upon external environmental variables is a key for top management and plays a prime role in organizational performance (Anthony, 1965; Chenhall, 2003; Fisher, 1998; Merchant et al., 1995; Otley, 1999). Hence, understanding contextual variables that cause a rise in uncertainty is a critical task for managers in planning and control activities because control is influenced by the level of uncertainty (Chapman, 1997; Chenhall, 2003; Chenhall & Morris, 1986; Hartmann, 2000; Kattan et al., 2007).

To better understand the concept of uncertainty as well as to ease its impact, many researchers have attempted to define and classify the types and the source of uncertainty. (Downey & Slocum, 1975; Duncan, 1972; Johannes & Tripathi, 1978; Khandwalla, 1977; Milliken, 1987). Uncertainty has been defined as an inability to assign probabilities as to the likelihood of a future event (Duncan, 1972; Johannes, 1981; Johannes & Tripathi, 1978; Salancik & Pfeffer, 1978) or a lack of information about cause-effect relationships (Duncan, 1972; Lawrence & Lorsch, 1967). A third definition was an inability to predict accurately what the outcomes of a decision might be (Downey & Slocum, 1975; Schmidt & Cummings, 1976). Milliken (1987)

in his article on uncertainty categorised definitions that have been most commonly used and cited by organization theorists into three groups: 1) state, 2) effect, and 3) response.

Nonetheless, all these definitions may be combined in one statement to create a unified understanding about uncertainty and its impacts. In doing so, uncertainty may be viewed as the inability to assign probabilities due to a lack of information, which causes an inability to predict accurately the outcomes of decisions, as well as cause ambiguity and difficulties in predicting future events.

Predictability in business is more related to environment stability wherein changes can be easily seen beforehand. Gul and Chia (1994) argued that, when the environment is certain and stable, management is more able to make accurate predictions about its market. Whereas, in an uncertain environment, despite the cause of uncertainty, predictability is a very difficult management task. Milliken (1987) stated that the changes per se in an external environment are not the determinants of uncertainty; rather the inability to predict those changes causes uncertainty.

Accordingly, environmental uncertainty is a crucial contingent factor that must be considered by MCS designers to build an efficient control environment to effectively face the surrounding uncertainties. Therefore, the current study and based on the importance of the PEU in the context of Palestine has been chosen it to understand its influence on the design and use of the MCS in the Palestinian firms. The following sub-sections will discuss uncertainty more in-depth by focusing on its types, sources,

and the environmental uncertainty that dominating Palestinian environmental landscape.

2.4.1 Types of Uncertainty

Uncertainty that may face any organization impacts its performance, structure, behaviour, strategy as well as MCS among others (Haldma & Lääts, 2002; Khandwalla, 1977; Otley, 2012; Simons, 1990). Many previous scholars have attempted to identify uncertainty types to improve the ability to confront it. Types include: a complex and variability environment (Amigoni, 1978), an uncontrollable environment (Ewusi-Mensah, 1981), simple-complex, static-dynamic or a predictability environment (Waterhouse & Tiessen, 1978), a heterogeneous and dynamic environment (Gordon & Miller, 1976); and an ambiguous environment (Daft & Macintosh, 1981; Ouchi, 1992).

Khandwalla (1977) in his book entitled, *The Design of Organizations*, provides a comprehensive classification of the types of external environment. He presents five types of external environment to assist organizations in understanding the sources and the types of pressures that cause uncertainty. He stated that an environment is a source of constraints, contingences, problems and opportunities that affect the terms on which an organization transacts business within its environment.

Khandwalla (1977) types are the following. The first is turbulence that includes and unpredictable, dynamic, expanding and fluctuating environment. A turbulent environment can be described in general as a changing environment that causes the information received by the organization to be contradictory most of the time, which

forces management to rely on guesstimates to estimate the future. Calculating risk in this case is a vital task to confront uncertainty.

The second type is hostility that includes a risky, stressful and dominating environment. This kind of environment is quite contrary to a safe and benign environment that is full of opportunity and easy to control. A hostile environment in general is characterized by frustration, which is one of the general characteristics for such an environmental type.

The third type is diversity, which can be described as a heterogeneous or diverse environment if the market or organization's customers have varied characteristics and needs.

The fourth type of uncertainty is technical complexity. An environment can be described as technically complex if the information needed for strategic decisions is considered technically highly sophisticated.

The fifth type is a restrictive environment. In this case, an external environment is considered restrictive if an organization is forced to operate under many constraints, such as legal or political constraints. Accordingly, any organization that faces uncertainty should be able to distinguish the types because each type requires specific control system to deal with. For example, some types of uncertainty require more emphasis on a diagnostic system, whereas some other types require an interactive control system to face uncertainty. Hence, the fundamental basis in the process of MCS design is to determine which type of uncertainty the company is

facing. Moreover, knowing the uncertainty source is important, which will be discussed in the following section.

2.4.2 Sources of Uncertainty

Environmental uncertainties that may upset any business environment may arise for many reasons. To categorize these reasons, Mavondo (1999) classified environmental uncertainties variables into two main groups. The first group comprised macro environmental variables that included: political, economic, social and technological factors. The second group initiated from the business environment itself and included entry barriers, seller concentration, buyer/supplier power and substitutes among others. This classification could help any company to easily differentiate the source of uncertainty that may perhaps weaken its performance.

Therefore, the usually sources of uncertainty come from two main sources; the macro environment and the business environment. Under each one of those two main sources different sub sources can be found. In previous literature, common sources of uncertainty that have been examined have included: product and market competition (Khandwalla, 1972; Miles, Snow, Meyer, & Coleman, 1978; Simons, 1990, 1991, 1994, 1995a); production technology (Brownell, 1987) strategy (Simons, 1987) political change and conflict (Haldma & Lääts, 2002; Kattan et al., 2007), operational and technological uncertainty (Widener, 2007), among others. However, Hambrick (1981) suggested that contingency factors that create uncertainty to rise should be classified according to their impacts on organizational processes. Organizational process are input throughput and marketing those output (Kleinaltenkamp, Plinke, Wilkinson, Geiger, 2015). Hambrick (1981) argues that this

classification will help to differentiate between the source and the impacts of uncertainty.

Managers who cannot interpret and perceived changes in their external environment or even notice important changes may fail to deal with those changes (Babatunde & Adebisi, 2012; Bastian & Muchlish, 2012; Chenhall & Morris, 1986; Milliken, 1990), and the result may lead to performance declines and undesirable results (Chenhall & Morris, 1986; Hoque, 2004; Otley, 2012). Consequently, prior researchers have characterized the environmental interpretation process, and they have developed several models to assist decision makers in understanding their environment more in depth (Cowan, 1986; Daft & Weick, 1984; Dutton & Duncan, 1987; Kiesler & Sproull, 1982). Thus, sources that cause uncertainty to raise must be monitor carefully by designing efficient control system.

Therefore, MCS must be designed in an effective way to assist top management in their efforts of classifying sources of uncertainty. Because confronting uncertainty is a needed step, before which is detecting the source of uncertainty, MCS must be designed to detect the source of uncertainty to ease its confrontation. In fact, in today business environment is not sufficient to design MCS with purpose of confronting without detecting uncertainty source. Accordingly, the new perspective of MCS design in this competitive world where uncertainty dominates (Otley, 2012), is to design MCS to detect and confront uncertainty together. For that end, and to understand source and type of uncertainties that MCS design must detect and deal with, the following section introduces environmental uncertainty that dominating Palestinian environment.

2.4.3 Environmental Uncertainty in Palestine

The uncertainties faced by Palestinian firms stem from both macro environmental variables and the business environment itself. Macro environmental uncertainties result from political uncertainty whereas business environment uncertainty results from market competition. Political uncertainty has been the leading issue faced by Palestinian firms for more than 25 years (Kattan et al., 2007). The major driving factors of such uncertainty have risen from the first *Intifada*,[1] which started in 1987 and ended in 1993. This was followed by Arab-Israeli peace negotiation - Oslo accords 1993, the establishment of Palestinian National Authority (here after called PNA), and the second *Intifada* that lasted from 2000-2007, and the segregation of the Gaza Strip from the West Bank in 2007.

However, the second *Intifada* that started in 2000 had the most significant impacts on the level of economic uncertainty (Kattan et al., 2007). This uncertainty was reflected in the macro environment and business environment and caused weak organizational performance. Many businesses were unable to cope up with the high level of political uncertainty and difficulties in the business environment and eventually closed. For example, some listed firms decided to stop certain activities such as selling stocks to the public in a response to the sharp decline in the share value during the second *Intifada*.

Rapid and complex changes in the Palestinian political environment have given rise to economic instability as a side effect of political uncertainty, which caused the emergence of many problems. Some problems faced by organizations have included demand fluctuations, supply fluctuations, poverty, a decline in purchasing power of

[1] Intifada in the Arabic language means public resistance.

the public compounded by high unemployment rate. This instability caused market demand to drop rapidly, which forced some firms to change their behaviour and to act aggressively to ensure their survival. This aggressive behaviour brought about new problems to the business environment along with the political instability, namely, competition uncertainty.

Political uncertainty brought other types of uncertainties to the market beyond competition uncertainty due to the restrictions imposed by the Israeli occupation since 1967. The aim of these restrictions is to keep the Palestinian economy from competing with the Israeli economy by means of imposing restrictions on natural resources so that the exploitation of these resources is left to the Israeli economy.

Israeli leaders declared those restrictions. For example, in 1986 Yitzhak Rabin, then Minister of Defence, stated, "There will be no development initiated by the Israel Government, and no permits will be given for expanding agriculture or industry, which may compete with state of Israel" (UNCTAD, 1986). This policy was aimed at preventing any Palestinian company from competing with an Israeli one (Sweiti & Attayah, 2013). For example, Palestinian telecommunication companies are not allowed to operate the third-generation telecommunication technology, although the world now is using the fourth generation. In fact, many restrictions have been imposed on modern technology to keep Palestinian companies behind Israeli ones, which has brought about technological uncertainties to the business environment.

Furthermore, according to international organizations such as the World Bank (2010; 2011) and the IMF (2011) the occupation has prevented Palestinians from benefiting

from or even accessing their land and most of their natural resources needed to improve their economy. Additionally, the Israeli occupation has isolated the Palestinian market from the global one. This caused some raw materials and products coming from foreign markets to be restricted from entering the Palestinian market, which considered to an obstacle for operational processes.

In addition, prevention of the issuance of Palestinian currency has resulted in the use of four regional and international currencies, including the U.S Dollar, New Israeli Shekel, Euro and the Jordanian Dinar (Valensisi & Missaglia, 2010). The lack of a Palestinian currency has given rise to an exchange rate fluctuation problem, which, in turn, has made production costs fluctuate. This fluctuation has resulted in operational uncertainties in the Palestinian business environment along with other types of environmental uncertainties.

The study of environmental issues in Palestine brings forth four types of uncertainties. First, uncertainty dominating the Palestinian environment originates from Israeli occupation. Second, competition uncertainty has emerged from competitor's behaviour. Third, technological uncertainties have arisen due to the restrictions imposed on the adoption of modern technology by Palestinian companies. Lastly, operational uncertainties have arisen due to the restriction on natural resources, raw materials, the isolation of the Palestinian market from the global one, and the prevention of the issuance of a Palestinian currency. Therefore, firms working in Palestine suffer from these four types of uncertainties regardless of the industry or firm size.

Accordingly, four types of environmental uncertainties dominating Palestinian environment including: political, competitive, technological and operational uncertainty. The source of political uncertainty is the Israeli occupation whereas the source of competitive uncertainty is from market competition whereas technological uncertainty arose due to advanced technology that has begun dominating business environment as well as because the Israeli restrictions on level of adapting technology by Palestinian companies. Finally, the source of operational uncertainty is Israeli occupation that impacts the operational process of the firms.

Based on the above sources and types of surrounding uncertainties and based on the essence of contingency theory, Palestinian companies should design effective MCS to deal with is such challenges and uncertainties. Therefore, the current study has been chosen PEU to examine how Palestinian companies design and use their MCS under such complicated and long-term challenges and uncertainties. The next section discusses national culture as the second factor for MCS design in the current study.

2.5 National Culture

Every nation in this world has its own special characteristics and features that distinguish it from another (Hofstede et al., 2010). Sociologists such as Inkeles, Trompenaars, Levinson and Hofstede have attempted to develop a consensus on problems that are common to all societies around the world. According to Hofstede (1980) culture can also be shared and learned while Trompenaars (1993) highlights the difficulty and high improbability of understanding another culture.

The definition and concept of culture has been open to academic debate. (Alkailani, Azzam, & Athamneh, 2012; Ayoun & Moreo, 2008). Culture is considered to be the life regulator that includes beliefs, knowledge, customs, moral, arts, laws, habits, and the capabilities that a member of a society can obtain (Alkailani et al., 2012). Culture can be the way of daily life for any nation or group of people. Hofstede (1984) has defined culture as "the collective programming of the mind which distinguishes the member of one human group from another" (p. 21). He describes the content of human mental programs as values. This definition has become the most acceptable one in MCS research (Chow, Shields, & Chan, 1991; Harrison, 1992, 1993; Merchant et al., 1995; Ueno & Sekaran, 1992).

Understanding the concept of culture is a challenging task, although an understanding of any national culture could be derived from answering questions such as, how do people response to fear, love, sadness, or anger? How do they deal with each other? Do they think of themselves as an individual or a member of a group? Consequently, because culture is a way of daily life for any nation or group, many researchers have studied its impact on organizational performance, structure, strategy, and control systems. (Chow et al., 1999; Efferin & Hopper, 2007; Harrison & McKinnon, 1999; Merchant et al., 1995; Suh, 2016; Tallaki & Bracci, 2015; Van der Stede, 2002).

However, as every nation in this world has its own national cultural characteristics that distinguish it from another, Hofstede (1980) has attempted to make a unified understanding by classifying the culture into five main dimensions (i.e., power distance, uncertain ty avoidance, masculinity vs. femininity, individualism vs,

collectivism, and Confucian dynamic). This classification helps in understanding the effects of a society's culture on the values of its members, and how these values relate to behaviour. Accordingly, understanding national culture characteristics of any nation will help in designing effective control environment. Consequently, understanding the influence of the national culture on MCS require understanding each cultural dimensions of Hofstede's (1980) which presented in the following subsections.

2.5.1 Hofstede's National Cultural Dimensions

Several dimensions that identify and operationalize the components of national culture have been examined. The list of these dimensions has expanded in the last two decades, with the recent work of Trompenaars (1993) and Schwartz (1999). However, Chow et al. (1999) have argued that these new dimensions have neither been extensively validated nor used in MCS research due to their recency.

In contrast, the national culture dimensions of Hofstede (1980) has been extensively validated and used to study the impact of national culture on organizations (Chow et al., 1999; Merchant et al., 1995; Smith, Dugan, & Trompenaars, 1996; Ueno & Sekaran, 1992; Van der Stede, 2002; Van Everdingen & Waarts, 2003). Hofstede (1980), from his survey of employee attitudes in the world-wide subsidiaries of IBM, disaggregated culture into four norm values, which he termed "dimensions" of culture: 1) uncertainty avoidance, 2) power distance, 3) individualism vs. collectivism, and 4) masculine vs. feminine. Subsequently, as study expanded, Hofstede and Bond (1988) added Confucian dynamism to the four existing dimensions. These dimensions are further illustrated as follows:

Uncertainty Avoidance is "the extent to which the members of a culture feel threatened by ambiguous or unknown situations" (Hofstede & Hofstede, 2004, p. 167). Uncertainty avoidance is concerned with how societies deal with future, especially the unknown aspects. Some cultures are anxious about their future more than others. In addition, anxious societies tend to be expressive (Hofstede & Hofstede, 2004, p. 171).

In a society that is characterized as low uncertainty avoidance such as the United States, Canada, Singapore and Hong Kong, the anxiety levels are comparatively low. In addition, emotion and aggression are not supposed to be shown. People work to meet basic needs, and they relatively feel secure (Hofstede, 1980).

In contrast, high uncertainty avoidance societies are anxious over their future. Examples of such countries include the Arab countries, Taiwan, Greece, and France. They try to feel secure by creating a sense of control to avoid a high level of uncertainty. Therefore, they are called "societies of uncertainty avoidance". Family life in this kind of society is stressful due to high anxiety, stress, aggression and visible emotions. An individual of such a society has a higher score on neuroticism than an individual in a low uncertainty society (Hofstede & Hofstede, 2004). Additionally, they are risk aversive, conservative investors, and they consider that which is different to be dangerous. They also avoid adopting new techniques, ideas, which means, for example, that they avoid technology, social plans and laws (Hofstede, 1980; Hofstede & Hofstede, 2004).

Power distance is "the extent to which less powerful members of institutions and organizations within a country accept that power is distributed unequally" (Hofstede et al., 2010, p. 61) . High power distance societies such as India, Philippines, Arab countries and China are more autocratic and accept the differences in the distribution of power and wealth (Hofstede, 1980).

In contrast, societies with a low level of power distance such as the United States, Australia and the Netherlands interdependence exists between less and more powerful people. Therefore, class differences are less tolerable, which will encourage democratic participation (Hofstede, 1980; Hofstede & Hofstede, 2004; Hofstede et al., 2010).

Collectivism versus Individualism are opposites. Individualism pertains to societies in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family. Collectivism is the opposite and pertains to societies in which people from birth onward are integrated into strong and cohesive in-groups, which throughout people's lifetimes continue to protect them in exchange for unquestioning loyalty (Hofstede & Hofstede, 2004). Examples of countries that classified as individualistic cultures are the United States, Canada, Italy and England, whereas collectivist countries are Japan, Taiwan, Arab countries and Iran. (Hofstede et al., 2010).

Femininity versus Masculinity, a society is called masculine when emotional gender roles are clearly distinct: men are supposed to be assertive, tough and focused

on material success, whereas women are supposed to be more modest, tender and concerned with the quality of life (Hofstede & Hofstede, 2004).

Moreover, in a masculine culture greater value is placed on challenges, achievements, recognition, task, performance, money, and purposefulness. Conversely, in feminine cultures more value is placed on relationships and quality of life, preserving the environment, helping others, not drawing attention to oneself and emphasizing people (Hofstede, 1980; Hofstede & Hofstede, 2001, 2004). Societies considered to be feminine are Spain, Sweden and Thailand, whereas the masculine examples are Germany, Arab countries, Italy and Venezuela.

Confucian Dynamic, Hofstede et al. (2010) defined Confucian as a long-term orientation for the fostering of virtues oriented toward future rewards, in particular perseverance and thrift. Its opposite pole, short-term orientation, stands for the fostering of virtues related to the past and present. In particular, respect for tradition, preservation of "face" and fulfilling social obligations. (Hofstede et al., 2010).

This dimension has two ranges, the positive pole and the negative pole. At one end, the positive pole, are values indicating future-oriented mentality, dynamic, such as hard work, shame, persistence and regard for relationship. The negative pole at the opposite end, represents the value of static mentality focused on the past and present such as reciprocation, face and tradition. Thus, Confucian dynamic may be more applicable to Asian countries such as China, Japan and Hong Kong (Hofstede et al., 2010).

2.5.2 Palestinian National Culture

The Palestinian culture is related to Arab culture, which services as the main umbrella for all Arab countries. The impact of Bedouin values has dominated the Arab culture for more than a thousand years and remains strong even though almost 90% of Arab population now live in cities or villages. In addition, 85-90% of Arabs are Muslim (Feghali, 1997), and they speak Arabic language (Abuznaid, 2014). Palestinians are imbued with basic common values of Arab culture (Feghali, 1997), which many scholars have studied and includes an array of values including courage, self-respect and generosity (Patai & DeAtkine, 1973), rivalry and revenge (Almaney & Alwan, 1982; Boutros-Ghali, 1981), endurance and rectitude, dignity, loyalty and pride (Feghali, 1997). Other basic cultural values most commonly include collectivism, honour and hospitality.

As an Arab country, collectivism in Palestine is characterized by "situation-centeredness", in which the family and groups are considered the source of loyalty, and the group has precedence over the individual's goals and needs (Yousef, 1974). As Khalid (1977) noted communal cohesion is undoubtedly the most desired value within the Arabs' value system and is the most important aspect of Arab culture. Hence, in Palestinian culture a strong emphasis on reciprocal interdependence exists, which influences social and business interaction pattern.

Honour, as one of the most common culture characteristic has its impact on social life. Dodd (1973) argues that honour is a "controlling value" and that honour or legitimizes the family structure and that a "modesty code" required of both men and

women. This controlling value impacts all of society and its organizational behaviour.

Nonetheless, Palestinian history has noted events that have impacted the culture. The most two important recent factors have been: 1) the Israeli occupation and its aggression, and 2) the political changes since the establishment of Palestinian National Authority after the Oslo accord 1993, which is considered one of the most critical events in bringing anxiety to the society. These anxieties are manifested in daily life and influence the entire society including its organizations.

Indeed, Palestinian culture has experienced a rapid evolution over the last 20 years, which has impacted two important culture dimensions. First were changes in the uncertainty avoidance dimension that have been represented in higher levels of anxiety. Second were changes in the power distance dimension, with an increased inequality in the distribution of power and wealth.

These two dimensions influenced Palestinian culture to become less collective due to increased economic, social and political pressures. Individuals exposed to such pressures often abandon the extended family and give loyalty and attention to his/her closest family instead to the extend family. In addition, group, teamwork and society cooperation become less important. Thus, a new generation arises with differences in their habits, traditions, customs and behaviour, especially after the spread of the social media. In addition to that the appraisal of the Arab spring revelation has also its impact on the people culture. Despite these pressures, in total Palestinian are well-educated, motivated and driven people who strive to advance themselves and their

country (Abuznaid, 2014). Palestinians still retain the general Arab culture, which manifests itself in dignity, loyalty, pride, honour, hospitality, masculinity and collectivism.

After this introduction about the Palestinian national culture, the next section will discuss the applicable cultural dimensions of Hofstede to be chosen in the context of the current study.

2.5.3 The Applicable of the Cultural Dimensions to the Arab Culture

National culture dimensions that are more applicable for the purpose of this study, which is to examine the impacts of Arab culture on MCS design, have been derived from Hofstede and Hofstede (2001). They investigated cultural dimensions in several Arab countries including Saudi Arabia, Egypt, Kuwait, United Arab Emirates and Iraq. The results of their study are illustrated in Figure 2.1.

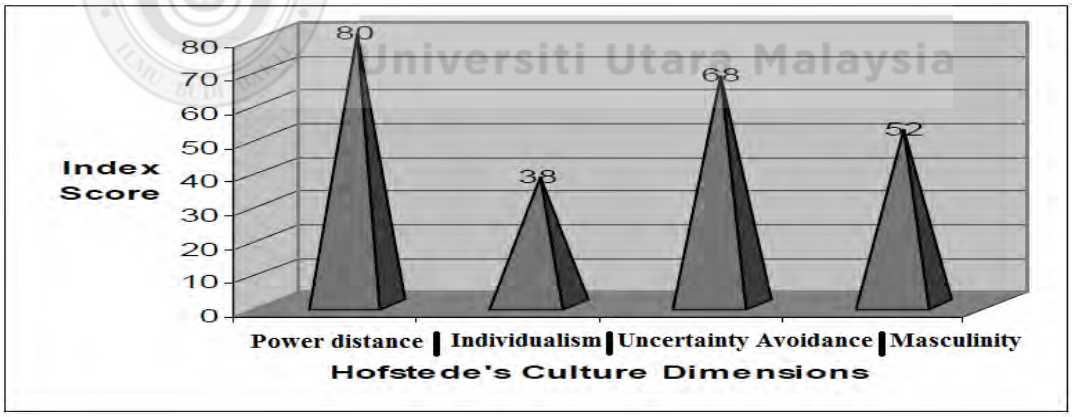

Figure 2.1
Hofstede's Cultural Dimensions for Arab Countries
Source: (Dik, 2011, p. 59)

The first cultural dimension from the left to right in Figure 2.1 is power distance. Power distance signifies an inequality in distributing power, prevalent in Arab countries. Thus, power and authority in the Arab world are limited to those who have higher position. The second dimension is individualism. Arab countries are considered as low individualism societies, which implies they are dominated by a collectivist culture. Uncertainty avoidance is the third dimension and is considered high, implying that Arab countries manage and control their organizations by developing rules and procedures as well as maintaining control to avoid uncertainties, in this case the lower level employees are rule-oriented. Masculinity as the last dimension reflects upon the level to which level female influence the societies. According to Hofstede's study, Arab countries are masculine societies. The masculinity index was found to be the third highest dimension among Hofstede's study. The small number of female employees can be linked to Arab culture in which the traditional role of a woman is still confined to family and society. Therefore, women in general are rarely found in leadership positions in companies or organizations (Dik, 2011).

However, to choose which cultural dimensions are more applicable to study the impact of Arab culture on MCS design, a comparison between Arab culture and Anglo-American culture is useful in this context, as Anglo-American countries represent the source of MCS knowledge. Thus, a study of cultural differences between Arab countries and Anglo-American countries is a requisite before importing and adopting any control systems. Figure 2.2 illustrates where these two cultures are similar and where they are different to select which cultural dimensions are more useful to test the impact of culture differences on MCS design.

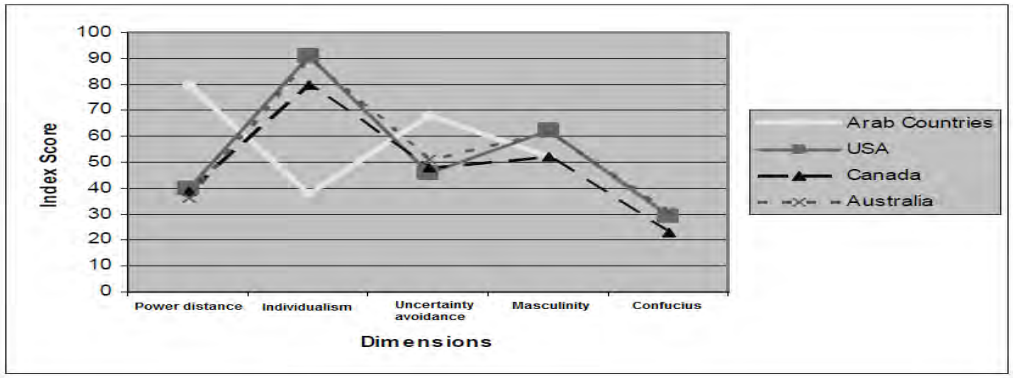

Figure 2.2
Hofstede's Culture Dimensions for Arab World with a Comparison to Anglo-American Culture
Source: (Dik, 2011, p. 60)

According to the comparison in Figure 2.2. Arab countries are a higher power distance, greater collectivism, and greater uncertainty avoidance culture as compared to the Anglo-American countries. Hence, a study of power distance, collectivism, and uncertainty avoidance is suggested for this study, as there are big differences in those dimensions between the two cultures.

However, the femininity dimension exhibits a low level of difference between Anglo-American culture and Arab culture, which infer that a substantial influence does not exist on MCS design. Thus, the femininity dimension will be excluded. Additionally, the number of female employees in the Arab world and their influence on decision making is insignificant and thus will not have an impact on the MCS design (Dik, 2011). Lastly, the Confucian dimension shows a low level of differences between both cultures. In fact, the Confucian dimension is more related to Asian countries such as China, Japan, and Taiwan as Hofstede suggested (1991) that to either Arab or Anglo-American countries.

Therefore, the dimensions that will be used in this research to study the impact of cultural differences on MCS design are: 1) high power distance, 2) collectivism and 3) high uncertainty avoidance.

However, due to the absence of one MCS design that can fit requirements of all organizations due to the national culture differences as well as many other contingent factors, this should be in the account to design effective control environment. Therefore, this study included different contextual factors that surrounding the Palestinian firms (i.e., PEU and national culture) to examine how such factors influence the design and use of the MCS. The next section will discuss the fundamental role of the contingent factors in MCS design.

2.6 The Relationship between Contingency Factors and Management Control System Design

MCS design has been a mainstream issue in accounting research for many years (Harrison & McKinnon, 1999) due to the absence of one design that can fit the requirements of all organizations (Fisher, 1998). Therefore, contingency based-research has a long tradition in the study of MCS design to explain the effectiveness of MCS by examining the design that best suits the nature of the context in which these control mechanisms will operate and function (Chapman, 1997; Chenhall, 2003; Chenhall & Moers, 2015; Chenhall & Morris, 1986; Cugueró-Escofet & Rosanas, 2013; Ditillo, 2004; Efferin, Efferin, Hartono, & Hartono, 2015; Fisher, 1998; Gerdin & Greve, 2004; Jordão, Souza, & Avelar, 2014; Merchant et al., 1995).

Previous literature has reported that MCS design is contingent upon organizational context (Chenhall & Moers, 2015; Chenhall & Morris, 1986; Fisher, 1995, 1998; Heinicke, Guenther, & Widener, 2016; Nguyen, Mia, Winata, & Chong, 2016; Otley, 1980, 2012), which can be divided into two main groups: 1) internal and 2) external contingent factors. Internal contextual variables include organization size, organizational culture, production process, strategy, organization structure, management style, and leadership style among others. External contingent factors include economic system, national culture, degree of competition and competitive behaviour, government rules and regulations, political shift and any other source of external environmental uncertainty.

Previous studies have agreed that all these contingent variables, regardless of whether they external or internal, comprise the design parameters of MCS with respect to inequality effect between those internal and external variables on MCS design. Therefore, the debate in the literature on MCS design focuses on answering two questions. First, which control mechanisms are more suitable

to the organizational context? Second, if the organization control designer selects the appropriate mechanism, is there a need to adjust these mechanisms according to the environment in which will operate and function? For example, the scope and timeliness of information depends on the uncertainty level (Chenhall & Morris, 1986).

These perspectives give answers to frequent questions such as to why firms adopt different MCS. These include: Why there are many approaches to design MCS? Why

no one MCS design can fit all organizations? As well as why does contingency theory dominate MCS research? Clearly, this is because of the differences between and among organizational contextual variables (Abdel-Kader & Luther, 2008; Chenhall, 2003; Efferin et al., 2015; Goebel & Weißenberger, 2016; Nguyen et al., 2016; Thomas & Ambrosini, 2015; Tsamenyi, Sahadev, & Qiao, 2011).

MCS design based on the above explanation could be defined as the process of selecting the most appropriate control mechanisms to fit the organization with its context and to ensure that organizational resources are obtained and used effectively and efficiently, as Anthony (1965) suggested was the aim of MCS. In addition, MCS design could be also defined as the process of selecting mechanisms that suit the organizational context, to ensure that information flow from those mechanisms will result in quick response and discipline to keep the organization on track of survival and growth. Whatever the case, MCS design should assist in achieving organizational strategy as well as assisting top management in directing the organization toward meeting its objectives. However, as the effectiveness of MCS design depends upon the context in which MCS will operate and function, it's important to study the influence of the surrounding factors that may influence MCS design. Therefore, this study has been chosen PEU that dominating Palestinian environment to investigate its effect on the MCS. The following subsection will discuss the previous related literature regarding the influence of PEU on MCS.

2.6.1 Perceived Environmental Uncertainty and Management Control System Design

Business environment is a powerful contingent variable that is at the foundation of MCS design as well as contingency-based research. One of the most widely

researched aspects of the environment is uncertainty (Chenhall, 2003). Since the 1970s, environmental uncertainty has received enormous attention in behavioural research (Tymon, Stout, & Shaw, 1998). Specific to MCS design, an earlier study was the empirical work of Khandwalla (1972). He examined the relationship between control systems and competition. Competition is considered to be a key component of uncertainty that stems from the external environment.

Khandwalla (1972) tested the hypothesis that MCS design and use in American manufacturing firms would be affected by an external environmental variable, represented by the market competition. A survey questionnaire was distributed to 92 manufacturing firms with a minimum annual average sale of $50 million. The findings showed a positive relationship between MCS design and external environmental variables. Furthermore, to survive, Khandwalla believed that firms should design their MCS according to their external environmental pressures. Hence, more pressure in the external environment required greater use of sophisticated MCS to confront external challenges. Moreover, increased competition will lead to an increased use of MCS procedures. In addition, Khandwalla (1972) concluded that, for those entrusted with the planning of control systems, knowing the degree of competition faced by the firm is vital. This stresses a strong association between external environmental uncertainty and MCS design. In contrast, in firms that do not face external pressure, a sophisticated MCS may do more harm than good.

The literature of 1980s shows more attention to MCS design under environmental uncertainty. For example, Gordon and Narayanan (1984), investigated the relationship among environmental uncertainty and MCS design. The findings show a

significant relationship between uncertainty and MCS design. In the same year, Govindarajan (1984) studied the relationship between environmental uncertainty, MCS design and business unit performance. He found that business unit managers who face a high level of uncertainty use more a subjective control system represented in performance appraisal than those with low level of PEU. Chenhall and Morris (1986) added to the literature, and the findings of their empirical research drew from 36 different manufacturing organizations in Australia. They examined the impact of both PEU and structure on MCS design. They concluded that during times of uncertainty managers should be provided with more information.

The literature of improving management skills to confront uncertainty through designing successful MCS continued to increase during the nineties. Gul (1991) investigated the relationship between MCS design and PEU. He found that sophisticated MCS under a high level of environmental uncertainty would help to improve operational performance, but under low levels of uncertainty a sophisticated MCS had a negative impact. These finding matched Khandwalla's (1972) earlier study.

In another study, Gul and Chia (1994) studied the impact of PEU on control systems, and they concluded that under a high level of uncertainty management accounting should provide information that has ability to help managers to confront obstacles, which stressed the finding of Chenhall and Morris (1986) as well as those of Khandwalla's (1972). Ezzamel (1990) reported that, high environmental uncertainty was linked to an emphasis on budget for evaluation, which matched the findings of Otley (1978) who arrived at the same result.

However, not all studies provided similar results. For example, Brownell's (1985) study produced different results. He argued that environmental uncertainty or complexity that is derived from government and suppliers was associated with less emphasis on the budget. In this context, Merchant (1990) commented that the pressure to meet financial budgets during uncertainty may lead to higher performance manipulation, which may explain why Brownell's (1985) found that PEU was associated with less emphasis on the budget.

Environmental uncertainty stemming from aggressive competition has been related to a reliance on formal control (Chenhall, 2003), wherein sophisticated accounting and statistical control should be implemented (Khandwalla, 1972). Thus, environmental uncertainty appears to require more reliance on formal control mechanisms and an emphasis on the budget (Chenhall, 2003; Otley, 1978). From these findings, the conclusion can be made that MCS design during uncertainty, whether originating from external or internal sources, has been associated with a need for more open, non-financial evaluation styles.

In addition, the control and organization literature reveals that organizations facing pressure use tight control systems as such pressure seriously threatens their survival and could end its existence, which encourages management to use an organic control mechanism (Kattan et al., 2007; Khandwalla, 1977). This is because mechanistic control techniques tend to provide incomplete information (Chenhall, 2003), which will hinder confronting environmental uncertainty. Therefore, to operate an organization effectively and to ensure its survival and growth, informal control

techniques, flexible communication systems and tight controls should be combined with more openness to ensure the flow of information (Chapman, 1998; Chenhall & Morris, 1995). Indeed, uncertainty requires an effective MCS to assist in gathering information needed to create and implement sound decisions.

In regard to the information flow during uncertainty time, Simons (1990) tested the relationship between strategic uncertainty and the use of MCS. He stated that top management will choose to make MCS interactive if the system collects information about strategic uncertainties. These findings stress two things. First, they stress the importance of designing MCS with the ability to provide management with the information needed to understand their environment. Second, top management will choose to use an interactive control system in the case of uncertainty to face the challenges that require top management to deal with it personally. In addition, an interactive control system will improve organizational learning for a better fit between MCS and the environment in which it will operate and function.

In case of uncertainty, management should rank and prioritize various uncertainties according to their effect. They must monitor the highest uncertainty personally to ensure that organizational objectives are achieved. It should be noted here that the rest of Simons (1995) control mechanisms, namely, beliefs, boundaries and diagnostic control systems, are not well documented under the case of uncertainty.

Recent studies have shown more attention toward environmental uncertainty and its impact on MCS design to ease the effect of uncertainties regardless of their type or source (Abdel-Kader & Luther, 2008; Alawattage, Hopper, & Wickramasinghe,

2007; Bastian & Muchlish, 2012; Bradshaw et al., 2007; Hammad et al., 2013; Hoque, 2005; Mason, 2007; Otley, 2012; Samuelson, 1999). This attention has increased steadily due to many reasons: 1) the rapid changes in organizational context, 2) increased global competition, and 3) the rapid development of advanced technology that influences internal operational processes, which create the so-called operational uncertainty.

With respect to the rapid development of advanced technology and its influence on MCS design, Chenhall, (2003) argued that the development of advanced technology might be expected to require control to encourage flexible responses to keep complicated operational processes under control. Furthermore, the advanced technology that has begun dominating the global requires a high level of open communication among organizational members and an intelligent system to manage the inter-dependences. Hence, because of this complicated advanced technology traditional MCS based on financial controls would not seem efficient under such circumstances.

In this context, Widener, (2007) examined the impact of technological uncertainty, operational uncertainty and competitive uncertainty on the levers of control. She reported that operational uncertainty has the largest effect on the diagnostic and beliefs systems, whereas in the case of competitive uncertainties more attention and focus will be given to the use of interactive controls. This finding implies that companies use interactive control to scan and control external environmental uncertainties while beliefs, boundary and diagnostic systems will be more in use to manage and control internal uncertainties such as operational and technological

uncertainties. In addition, Widener, (2007) reported that companies may use other types of control systems outside levers of control to effectively control assets impairment and technological risk, which encourage her to recommend future researcher to investigate the impact of this advanced technology on MCS design to explore the ability of those new technology to creates new control systems.

However, Chenhall, (2003) gave the general association between MCS design and technology. He stated that companies adapting to technology characterized by standardized and automated process will focus more on formal control techniques including reliance on process control and traditional budget with less budget slack. By contrast, when technologies a characterized by a high level of task uncertainty, more reliance will be on informal control practices such as accounting performance measures, high participation in budget, more personal control, and less reliance on standard operating procedures among others.

Anderson and Lanen (1999) investigated the relationship between MCS and its competitive advantages in 14 Indian firms using contingency theory framework. The findings show that contingency factors such as external environment factors effected the design and usage of MCS. Luther and Longden (2001) conducted a comparative study between South Africa and England to understand the effects of external environmental changes on MCS techniques as South Africa had fundamental political and structural changes in comparison to the political stability of England.

The findings showed that environmental changes had a significant impact on MCS design and usage over the period from 1996 to 2001. Moreover, analysis shows that

some factors causing MCS to change in South Africa were different compared to those in England, which further stresses the importance of contingency theory in MCS design. Thus, MCS design is contingent upon the circumstances in which an organization finds itself (Chapman, 1997; Chenhall & Morris, 1986; Fisher, 1995, 1998; Gordon & Narayanan, 1984; Khandwalla, 1972; Otley, 1980).

However, Luther and Longden's (2001) findings matched those of Waweru et al. (2004) who concluded that environmental changes represented in government reform/ deregulation policy as well as global competition had a significant impact on management accounting (hereafter called MA) changes. Such changes included an increased use of contemporary MA techniques such as activity-based cost allocation systems to enhance cost control and a balanced scorecard to evaluate financial and non-financial performance to link short-term operational controls with long-term strategy and vision.

In the recent study of Janke et al. (2014), they examined the effect of environmental uncertainty represented in the 2008-2010 world crisis on the interactive use of MCS. The study explored whether interactive use of MCS influenced the perception of a negative external crisis. Their results added to MCS literature noting that the perception of negative external uncertainties leads to more interactive use of MCS, which gave an answer to Hopwood's (2009) question about whether changes in a MCS uniform pattern can be observed during crisis, namely, uncertainty. In fact, Janke et al.'s (2014) results are consistent with Widener, (2007) that have been presented previously in this current study.

Moving toward uncertainty stemming from political shift, the control literature has produced limited studies in the area. Haldma and Lääts (2002) used contingency theory to investigate the relationship between MCS practices of Estonian manufacturing companies and the pressure of political and structural shift. The results concluded that changes in the external political environment in terms of external contingency factors are associated with changes in management accounting practice. Moreover, data analysis revealed that Estonian manufacturing companies made improvements in their cost accounting methods as a response to external political pressure. The findings may represent the importance of such changes in MCS to confront competition in the environment of global competition.

Little research has been conducted particularly targeting the political uncertainty dominating the Arab world, but these do not rise to the level of the external environmental uncertainty. One of the rare studies in the field is the work of Kattan et al. (2007). They conducted a case study on a company over a ten-year period to understand the effects of Palestinian / Israeli conflicts on MCS design by applying contingency based-research. Kattan et al. (2007) classified political uncertainties that hit Palestinian business environment into three main periods. First, high uncertainty caused by the first *Intifada* in 1987. Second, uncertainty associated with the Oslo accord in 1993. Third, the uprising of the second *Intifada* in September 2000. The findings showed that during high levels of environmental uncertainty, the budgeting system was closer to being organic while in low levels of uncertainty the budgeting system moved towards a more mechanistic approach.

In addition, traditional accounting information is unreliable and such tools have little value during periods of high uncertainty for evaluating business performance. Furthermore, emphasis is placed upon the management of cash flow, particularly in high uncertainty periods. Overall, during uncertainty, a company tends to use organic control systems, whereas in environmental periods political stability a more mechanistic practice will be in use.

However, many limitations can be found in the study of Kattan et al. (2007). This include; the recall of events occurring some years previously and the difficulty of generalizing the results of a case study beyond the context in which it is studied. Furthermore, the study was conducted in a private company in which the owners represented the management and this could quicken the response to the external changes because of high level of flexibility associated with such private management as compared to public companies that are governed through multiple layers.

In conclusion, many studies have examined the influence of PEU on the design of MCS in different countries around the world. Most of this research has been directed toward advanced countries (Hopper, Tsamenyi, Uddin, & Wickramasinghe, 2009; Uddin & Hopper, 2001; Waweru et al., 2004). Some has been directed toward less developed countries such as India (Joshi, 2001; Narula & Upadhyay, 2010), Estonia (Haldma & Lääts, 2002), Bangladesh (Uddin & Hopper, 2001), China (O'Connor, Vera-Muñoz, & Chan, 2011) and South Africa (Luther & Longden, 2001).

In contrast, the Arab world, which includes 22 countries spread over a large geographical area, offers significant opportunities for foreign investments with a high

level of political uncertainty since 2011. Nonetheless the region has received negligible attention in the extant MCS literature. Thus, a literature review shows that control mechanisms such as beliefs, boundary, diagnostics and interactive control system of Simons (1995) are not well documented for the case of environmental uncertainty in an Arab context.

However, the conclusion can be made the more the environment becomes uncertain, the more emphasis will be placed on MCS as has been shown by the findings of the previous studies (Chapman, 1997; Chenhall, 2003; Chenhall & Moers, 1986; Fisher, 1998; Otley, 2012; Widener, 2007). Accordingly, this study has been chosen PEU (i.e., political, competitive, operational and technological uncertainty) to examine its effect on MCS design in the Palestinian environment. However, As this section highlights the influence of PEU on MCS, the next section focuses on the design differences of MCS under the impact of national culture in which MCS are intended to operate.

2.6.2 National Culture and Management Control Systems Design

The relationship between national culture and MCS design represents an extension of contingency-based research from its organizational basis to a more sociological concern (Chenhall, 2003). This concern seems to be a logical response due to an increasing number of businesses spread across multiple nations, as one result of globalization (Harrison & McKinnon, 1999; Harrison et al., 1994; Merchant et al., 1995; Suh, 2016).

World movement toward international firms has encouraged managers to understand whether a control practice that is used in one country can be used effectively in another country (Chang, 1985; Child, 1981; Chow et al., 1999; Efferin & Hopper, 2007; Harrison & McKinnon, 1999; Tallaki & Bracci, 2015; Van der Stede, 2002). However, Merchant et al. (1995) commented that importing or exporting control mechanisms across cultures without adjustments is packed with risk. The motivation to study the impact of national culture on MCS design in this current research was to answer questions about whether and how the differences in national culture gives rise to differences in the philosophies and approach of MCS design. (Chatzkel & Ng, 2013; Chow et al., 1991; Daley et al., 1985; Harrison et al., 1994; Suh, 2016; Tallaki & Bracci, 2015).

Several scholars have studied cultural differences and MCS design. Anthony (1965) was one of the first scholars who cautioned about the importance of cultural differences in MCS design because evidence was accumulating that each nation had its particular culture, which influences their preferences for reactions toward management control (Adler, Doktor, & Redding, 1986; Chow et al., 1991; Hofstede, 1980, 1991; Merchant et al., 1995; Vance, McClaine, Boje, & Stage, 1992). Later, Merchant (1982) argues that management control is the problem of human behaviour. In a series of studies beginning in the 1980s Hofstede et al. (2010) argued that human behaviour was strongly associated with national culture. Implementing this concept stresses the importance of national culture as a guide for human behaviour, which is the main challenge of management control (Daley et al., 1985; Otley, 1978; Van der Stede, 2002).

Indeed, Hofstede's cultural dimensions inspired the cross-cultural research of MCS that emerged in the early 1990s (Dik, 2011). Researchers examined the relationship between Hofstede's cultural dimensions and elements of control systems such as budget (Daley et al., 1985; Harrison, 1992), formal communication (Ueno & Sekaran, 1992), formality of control, appraisal system, team development and frequency of feedback (Vance et al., 1992) and structuring of activities (Lincoln, Hanada, & McBride, 1986).

Unfortunately, this literature exhibited inconsistent and mixed results at best. Few studies confirmed a high impact of national culture on MCS design and others were unable to detect a significant influence (Chenhall, 2003; Efferin & Hopper, 2007; Harrison & McKinnon, 1999; Merchant et al., 1995). Examples of these mixed results is shown in the empirical work of Daley et al. (1985) and Ueno, and Sekaran (1992) in a comparison of American and Japanese firms.

Daley et al. (1985) examined the cultural differences for budgeting and control systems. Twelve factors related to control system and financial planning were investigated**.** A survey questionnaire was distributed to collect data from 500 large American and Japanese firms. The findings showed that Japanese controllers and managers differed from American in four major areas. First, the Japanese prefers less participation, although Japan is classified as a collectivism country. Second, Japanese firms preferred more budget slack. Third, the Japanese view a budget as communication tool. Lastly, the Japanese have a more long-term planning horizon.

In contrast, Ueno and Sekaran (1992) examined individualism versus collectivism on budget practices in both the United States and Japan. They found contradictory results and reported that Americans tended to build budget slack to a greater extent, whereas Daley et al. (1985) reported that Japanese preferred more budget slack. Additionally, firms in the United States tended to use long-term performance evaluation less than that their Japanese counterparts did, while Daley et al. (1985) showed that the Japanese were more concerned about long-term planning. Furthermore, firms in the United States tended to use communication and coordination more than Japanese firms that were impacted by the concept of collectivist culture.

However, discussing cultural dimensions that are used in the current study (power distance, collectivism, and uncertainty avoidance) are discussed separately in the following sub sections related to MCS design and will illustrate the issue further in depth.

2.6.2.1 Power distance and management control systems design.

Power distance was theoretically identified as a main cultural dimension that determines the appropriate relationship between the superior and subordinate, as well as the entire organization hierarchy within a firm (Harrison, 1993; Hofstede, 1984; O'Connor, 1995). In conceptualizing this dimension, Hofstede (1984) pointed out the gaps between high versus low power distance cultures, which included the meaning of status differences, subordinate consultation versus the philosophy of paternalistic management, the ways of redress in instances of grievances and the appraisal systems.

Those gaps between high and low power distance cultures encouraged several MCS researchers to study its impact on MCS design (Chow et al., 1999; Harrison, 1993; Merchant et al., 1995; Ueno & Sekaran, 1992; Ueno & Wu, 1993; Van der Stede, 2002). Harrison et al. (1994) examined the differences in the philosophies of, and the approach of designing MCS across four countries. This included Singapore and Hong Kong on one side representing high power distance cultures versus Australia and the United States representing low power distance cultures on the other side. Survey questionnaires were distributed to collect data from financial executives and senior accounting officers from 800 organizations in the four countries. The results supported the importance of power distance cultural dimension for MCS design. In particular, the Anglo-American culture, which represents low power distance societies, is associated with a greater emphasis on quantitative and analytical techniques in control, decentralization and responsibility centres in organizational design. On the other hand, in Asian countries that are high power distance societies, the emphasis is associated with group decision making and long-term planning. These results are compatible with the findings of Daley et al. (1985).

Snodgrass and Grant's (1986) empirical research compared MCS components such as explicit versus implicit control in the monitoring, evaluation and reward in firms in the United States and Japan. The results showed that MCS in Japanese firms placed stress upon the strength of hierarchy and the trust relationship that is maintained between the hierarchies; which further contributes to an open line of communication and ease in information sharing as well as maintaining trust relationship between those hierarchies. Snodgrass and Grant (1986) commented on the influence of trust

on personal interdependence that dominates Japanese hierarchy, the hierarchy is probably the strongest control mechanism in these Japanese companies.

In contrast, Bond (1993), noted that Chinese companies may see hierarchy as an obstacle for open channels of information exchange. In addition, he argued that Chinese hierarchies are built upon authoritarian and distant nature of relationships between organizational hierarchies. This finding could be due to high levels of power distance in the Chinese culture in comparison to the Japanese culture.[2]

Certain qualities are associated with relationships in high and low power distance culture. The relationship between superiors and subordinates in a high-power distance culture and its impact on control system design have been characterized by everyone having his / her assigned place and wide range of prerogatives accorded to superior position with high authority over those below them. (Bond & Hwang, 1986; Hofheinz & Calder, 1982; A. Y. King & Bond, 1985; Merchant et al., 1995). In societies of high power distance, such as Arab countries, subordinates accept hierarchies' inequality in their organization, which in turn will let subordinates expect not be consulted in the decision or actions that affect them. The hierarchy in this case reflects and reinforces inequality. The effect of inequality on MCS design because superiors are expected to manage, lead, and make decisions autocratically and paternalistically. Subordinates on the other hand, are unwilling and afraid to disagree with their superiors (Child, 1981; Hofstede, 1980). In contrast, subordinates in low power distance societies such as in the United States expect to be consulted

[2] China scored 80 on the power distance scale, whereas Japan scored 54 (Hofstede et al., 2010, pp. 57,59)

regarding decisions or actions that affect them (Harrison et al., 1994; Hofstede, 1980). (Harrison et al., 1994).

In addition, forced obedience seems to be a way of controlling an organization's activities in a high power distance culture. Thus, subordinates and employees have less freedom due to the high level of centralization accompanied with autocratic and paternalistic approach. Hofstede (1984) commented on this forced obedience relationship that it will affects the behaviour of the less powerful as well as of the more powerful members of society. Hence, a control system might be examined at to which mechanisms are more appropriate under such circumstances.

However, searching the literature of MCS design for studies examining a high level of power distance culture as is the case of Arab world shows that most previous research has focused on well-developed countries such as the United States and Japan. By contrast, there is a neglected attention given to the Arab culture in the existing literature of the MCS. In addition, Simons' (1995) levers of control beliefs, boundaries, diagnostics and interactive systems are not documented. Therefore, a research gap exists in the relationship between the impact of power distance dimension and control systems with respect to the Arab context.

2.6.2.2 Collectivisms and management control systems design.

Collectivism refers to societies in which people from birth onwards are integrated into strong and cohesive in-groups (Hofstede et al., 2010). Therefore, a tendency exists in cross-cultural research on MCS to assume that collectivist societies prefer groups over the individual (Harrison & McKinnon, 1999). A variety of factors exists

to predict organizational behaviour as well as employees' behaviour in such cultures, such as the decision-making process (Harrison et al., 1994), incentive schemes (Chow et al., 1994; Chow et al., 1991; Merchant et al., 1995) and participation (Chow, Kato, & Merchant, 1996; Harrison, 1992). Those preferences are driven by elements of collectivist cultures as Harrison and McKinnon (1999) have discussed.

However, people in collectivist culture tend to see themselves first and foremost as part of the group, whereas members of individualist societies tend to be more concerned with personal achievement, individual rights and independence. (Hofstede, 1980, 1984; Hofstede & Hofstede, 2004; Van der Stede, 2002). Those differences in both mentalities are reflected in employee behaviours, attitudes, beliefs, evaluations, and rewards.

These, in turn, will influence MCS design especially in the case of international firms. Chow et al. (1996) examined the effect of a collectivist versus an individualist culture on data manipulation in two big firms. They tested the hypotheses that people in collectivist culture would be more willing to overcome their personal interests than those in individualistic culture. The findings showed that the predictions were rejected in general. The Japanese managers, representing collectivist culture, and their American counterparts, representing an individualist culture, were subject to significantly tighter control systems and tighter procedures via directives given in the meeting in Japan compared to their counterparts in the United States.

In another study, Chow, Kato, and Merchant (1996) tested the behaviour of profit centre managers under tight control in both collectivist and individualist cultures, and

they concluded that under tight control, managers from a collectivist culture were less likely to engage in dysfunctional activities such as a high level of performance manipulation or short-term oriented behaviour compared to their counterparts from an individualistic culture. This finding matches Hofstede's (1980) suggestions, and the findings of the empirical work of Bond, Leung, and Wan (1982) and Leung and Bond (1984).

Ueno and Sekaran (1992) found that managers in a collectivist culture used communication and coordination less than the managers of an individualistic culture did, wherein managers in a collectivist culture built an active budget and used long-term performance evaluation more than their counterparts in an individualistic culture. Harrison (1993) found that in a collectivist culture, such as Singapore, the evaluative style of superiors was highly reliant on measuring accounting performance and budgets.

Merchant et al. (1995) tested several hypotheses related to performance evaluation in both the United States and Taiwan. One of those hypotheses was that because Taiwan was a collectivist society there would be a culturally driven orientation of Taiwan managers to the firm. The results rejected the hypotheses and raised the question of whether this assumption was valid. In addition, Merchant et al. (1995) noted that, in a collectivist culture such as China, collectivism was not aligned with whole organization but was restricted to subgroups within the organization. Additionally, a competitive culture dominated the environment rather than cooperation and coordination as expected from collectivist dimension.

However, the real impact of a collectivist culture on organization needs further investigation, especially related to the conflict between in-group and outgroup members. Furthermore, a collectivist culture needs more investigation in the case of high external environmental uncertainty that requires more cooperation and coordination among the all organization members and departments. Unfortunately, searching of the literature of MCS design regarding collectivist cultures reveals little research as well as conflicting results (Chenhall, 2003; Chow et al., 1996; Merchant et al., 1995).

In addition, previous literature of collectivist cultures and MCS design shows that study of the Arab culture as collectivist culture is very limited in the context of MCS research. Thus, a gap exists in the understanding of how Arab collectivism influences MCS design. Hence, this study seeks to fill this gap by studying one of those countries, namely, Palestine, to add to the literature concerning the influence of such a culture on MCS design. In addition, the influence of collectivist culture on the levers of control has not been documented yet, which raises the need to understand how the levers of control systems work under collectivist cultures.

2.6.2.3 Uncertainty Avoidance and Management Control Systems Design

Societies with a high level of uncertainty avoidance are wary of their future (Hofstede, 1980). They believe that uncertainty is inherent in their life, which represents a continuous source of threat that must be countered (Hofstede & Hofstede, 2004; Hofstede et al., 2010). Therefore, they adhere to strict laws, rules, security, safety and believe in absolute truth as the only ways to confront uncertainty (Hofstede & Bond, 1988). Additionally, an autocratic style of management and

control is found in their organizations as well as less participation and a preference for rule-based behaviour. This fact has encouraged control system designers and researchers to examine those characteristics on MCS design. (Birnbaum & Wong, 1985; Chow et al., 1996; Chow et al., 1994; Frucot & Shearon, 1991; Ueno & Wu, 1993; Vance et al., 1992).

Many contradictory results exist in previous literature. For example, Birnbaum and Wong (1985) drew on Hofstede's (1980) concept, and they hypothesized that a society with a low level of uncertainty avoidance, such as Hong Kong, would prefer horizontal differentiation more than a high uncertainty avoidance society. (Birnbaum & Wong, 1985, p. 265). The study was conducted among 20 multinational banks in Hong Kong. Data analysis rejected the hypothesis and showed that a low uncertainty avoidance culture was associated with a low level of horizontal differentiation. In contrast, Lincoln, Hanada, and Olson (1981), who studied 28 Japanese-owned firms in the United States, found the opposite results and argued that a high level of uncertainty avoidance was associated with low level of horizontal differentiation.

Chow et al. (1999) examined control system mechanisms with respect to uncertainty avoidance dimension. First, they argued that employees from a high uncertainty avoidance culture preferred to be controlled by looser standards because they were more likely to achieve the target to avoid uncertainty. Second, according to the controllability filter that excludes any factors beyond the control of' control in evaluating their performance. Chow et al. (1999) argued that people from a high uncertainty avoidance culture expressed a greater preference to exclude uncontrollable factors in their performance evaluation.

However, the impact of the uncertainty avoidance dimension on MCS design with respect to real external uncertainty that could dominate any country due to political, economic or any other factors is not documented in the literature. Most previous studies were conducted in stable and well-developed environments (Harrison, 1993; Harrison & McKinnon, 1999; Ueno & Wu, 1993; Van der Stede, 2002), which may miss the real influence of uncertainty avoidance on MCS design.

Moreover, with regard to the relationship between the uncertainty avoidance dimension and real environmental uncertainty that threatens people's life, such as political conflict, previous literature omitted this critical point regarding MCS design. Therefore, Arab world as one of transition countries after the Arab spring revolution started in 2011 provide a perfect condition to examine this relationship. Furthermore, MCS research in the Arab world as one of high uncertainty avoidance societies (Henri & Journeault, 2010) have limited attention from previous research.

Add to this, previous researchers examined the impact of uncertainty avoidance on a subpart of control system mechanisms, which means they omitted the holistic control system approach as recommended by Otley (1999). Thus, a gap of understanding exists in relevance to the impact of cultural differences on the total control systems. In this context, the relationship between the levers of control as holistic control systems and national culture dimensions has not been investigated in the previous literature.

2.7 Organizational Learning

Organizational learning at a basic concept means the development of prudence through the acquisition of new knowledge that has the potential to influence behaviour (Sinkula, 1994; Slater & Narver, 1995). Organizational learning is often established as a result of training, knowledge acquisition, stakeholder engagement or collaboration between intra-organizational and inter-organizational partners (Oelze, Hoejmose, Habisch, & Millington, 2014).

Organizational learning development is viewed as history-dependent, routine-based, and target-oriented. Therefore, historical experience is considered to be a source of prudence and knowledge by adapting and formalizing routine activities that lead to organizational learning to guide the desired behaviour. Thus, routine interpretations are based more on past experiences than on future expectations (Levitt & March, 1988).

However, organization experience views learning as a cyclical process among individual, organizations and their environments. These processes start with an individual who takes action, which leads to an organization's interaction with the environment. Later, these actions and interactions with the environment will create response. The environment's response is interpreted by an individual who learns of the results and updates his/her beliefs through an understanding the relationship between the cause and the effect, In other words, this process comprises the relationship between individual action and organizational interaction on the one hand and the environment response on the other hand (Lee, Courtney Jr, & O'keefe, 1992).

In this context, Levitt and March (1988) called this relationship trial-and-error learning or organizational search. Thus, organizational learning could be defined as a process by which an organization collectively learns through interactions with their environments (Sinkula, 1994), or as the process of improving actions through better knowledge and understanding (Fiol & Lyles, 1985). In addition, organizational learning is the process by which the common experiences of organization members help develop new knowledge and insights to influence behaviour and improve a firm's capabilities (Fiol & Lyles, 1985; Huber, 1991; Slater & Narver, 1995).

Additionally, shared information among an organization's members about previous relationships between cause-and-effect will create so-called organizational memory in the form of assumptions, shared beliefs and norms (Sinkula, 1994). In this case, organizational memory works as a guideline for both the individuals and the organization action. In fact, individual learning is fundamental to organizational learning because, unlike individuals, an organization does not have a brain (Leithwood, Aitken, & Jantzi, 2006).

Despite the influence of individuals on organizational learning, individuals come and go and have more or less knowledge than the organization itself. Hence, Sinkula (1994) argued that organizational learning is the means by which knowledge is perceived so that it can be used by individuals other than its preserved.

An organization must keep its eyes open to learn faster than its competitors in this dynamic and turbulent market environment because who can learn faster can get a competitive advantage first (De Geus, 1988; Dickson, 1992; Slater & Narver, 1995).

In doing so, an organization must keep looking to learn about marketing tasks (Sinkula, 1994), MCS design (Henri, 2006; Widener, 2007), strategy formulation and competitive advantages (Simons, 1990), product innovation (McKee, 1992), technology diffusion, innovation, international competition, internal process development, external uncertainty, among others. In this context, an organization could learn through its direct and indirect experiences (Levitt & March, 1988). The results of such organizational learning can be seen in its ability to be more flexible and to respond faster than its competitors in the case of challenges (Day, 1994; Slater & Narver, 1995), which can protect organizational competitive advantages and maintain its performance (Dickson, 1996).

Based on that, it is fundamental to examine organizational learning in the context of Palestine because much research have arrived with conclusion that most Palestinian organizations suffered from the absence of appropriate knowledge that can assist them in designing better MCS (Abu-Haddaf, 2006; Sharaf, 2005). Thereby, Palestinian organization urgently need to build their organizational memory. Based on that, this study studies the issue of organizational learning in the context of Palestine to add to the existing literature regarding the ability of MCS in stimulating organizational learning in such an environment. In addition, the current study will go beyond that and test whether organizational learning can mediate the association between MCS and organizational performance.

Therefore, it is fundamental in this competitive world to build organizational learning by exploiting different available tools such as MCS (Simons, 1990). Based on that, the following section (2.7.1) highlights the fundamental role of MCS in

stimulating organizational learning to build intangible competitive advantage, whereas section (2.7.2) focuses on the essential role of organizational learning in deriving organizational performance. Following that, the mediating role of the organizational learning between MCS and organizational performance will be discussed in section (2.7.3). As a result of all these sections, the role of MCS in enhancing firms' performance via organizational learning will be clearer and more understandable.

2.7.1 The Relationship between Management Control Systems and Organizational Learning

The aim of organizational learning is to enhance organizational performance through building sustainable competitive advantages, but numerous factors play critical roles in enhancing organizational learning itself. One of these factors is MCS design (Simons, 1990). Therefore, this interesting relationship has been examined to adjust control mechanisms in a way that can stimulate organizational learning (Henri, 2006; Simons, 1990; Widener, 2007).

However, previous research has examined levers of control systems, namely, beliefs, boundaries, diagnostics, and interactive control systems**.** Simons (1990) argued that personal involvement of top management has a significant influence in producing and sharing information, which, in turn, will result in acquiring the desired knowledge. Moreover, the involvement of top management that is accompanied with an interactive exchange of information will motivate and facilitate the learning process throughout the organization about its external environment and how to cope with external challenges.

Simons (1990) conducted a case study to examine further the expected relationship between organizational learning as a dependent variable on MCS. He reported that the interactive involvement of top management will activate organizational learning, which, in turn, will contribute in the formulation of new strategies, ideas and tactics to enhance organizational effectiveness.

In addition, previous literature has shown that an interactive control system contributes to gathering information, especially in the case of uncertainty and facilitates the exchange of information. Besides, an interactive system opens a communication channel to break down hierarchical and functional barriers that hinder the flow of information, which, in turn, stimulates organizational learning to assist top management in making sound decisions (Abernethy & Brownell, 1999; De Haas & Kleingeld, 1999; Henri, 2006; Malina & Selto, 2001).

Henri (2006) for example, examined the influence of diagnostic and interactive use of performance measurement systems (PMS) on organization capabilities. Data were collected from 383 Canadian manufacturing firms, and the study concluded that a positive relationship existed between the interactive use of PMS and organizational learning as one of those capabilities whereas the diagnostic use of PMS exerted negative pressure on organizational learning.

Henri (2006) measured two of the levers of control, namely, diagnostic and interactive control systems, discarding the remaining levers. In addition, Henri (2006) omitted external contingent variables, namely, uncertainty that influence the use of control systems, which, in turn, affects the level of which the top management

will be involved personally to control uncertainty as well as how they use a diagnostic system in the case of external uncertainty.

Widener (2007) conducted research to examine the relationship between MCS (levers of control), organizational learning and organizational performance. Widener (2007) examined all levers of controls taking into account the influence of external uncertainties as antecedent contingent factors that Henri (2006) previously omitted. A survey questionnaire was distributed to Chief Financial Officers of 122 firms in the United States to test the previous relationships. Widener (2007) reported that external uncertainties, in general, influenced the extent to which firms emphasise control systems, which, in turn, stimulate organizational learning. Widener (2007) found contradictory results like those shown by Simons (1990) and Henri (2006). With reference to the interactive use of PMS, the conclusion was made that neither interactive controls nor boundary systems stimulated organizational learning, which raises the need to test the impacts of MCS on organizational learning again.

However, Widener (2007) commented on these contradictory results, stating that the results implied that an interactive control system may be more organic and influence organizational learning through the formal structure of a diagnostic control system. Thus, the formal structure of a diagnostic control is a fundamental basis in interactive control to stimulate organizational learning. In this context, Simons (1990) also suggested that formal structure that has been found in MCS facilitates organizational learning, which could justify Widener's contradictory results (2007).

In contrast, beliefs system and the diagnostic use of PMS facilitates organizational learning, which also represents the contradictory results of Henri (2006) regarding the influence of diagnostic control on organizational leaning. The contradictory results witnessed in the studies of Henri (2006) and Widener (2007) might be associated with a difference in sample size because Henri's (2006) sample size was three times that of Widener (2007).

Furthermore, Widener (2007) examined the pressure of the business environment originating from operational uncertainty, competitive uncertainty, and operational risk to investigate its impact on organizational learning through MCS techniques. She omitted the pressure of the macroeconomic environment, namely, government and political uncertainty. This could be due to the high level of political stability that the United States enjoys, which raises the question of how MCS mechanisms should be adjusted under the pressure of political uncertainty to facilitate organizational learning.

Based on the previous results that are contradictory and insufficient to be taken with respect to the uncertainty perspective, the importance of MCS techniques in facilitating organizational learning remains ambiguous and needs more investigation. Again, all previous research conducted in well-developed and stable countries, which again raises the question of how unstable countries adapt MCS to motivate organizational learning to cope this rapidly changing and competitive world. However, the next section will discuss the possible influence of organizational learning on organizational performance as this is the ultimate aim of this study.

2.7.2 The Relationship between Organizational Learning and Organizational Performance

The aim of any organization's management is undoubtedly to enhance its performance. Enhancing organizational performance is an achievable target if the management follows the correct techniques. One of those techniques is improving organizational learning. Therefore, the impact of organizational learning on the performance of firms has been studied previously by many researchers (García-Morales, Jiménez-Barrionuevo, & Gutiérrez-Gutiérrez, 2012; Lord, 2014; Senge, 1990; Snyder & Cummings, 1998).

García-Morales et al. (2012) have argued that examining this relationship is difficult due the time delay, which means that the learning of today will affect performance of tomorrow. However, previous literature has provided little knowledge about the mechanisms that can convert organizational learning into performance (Snyder & Cummings, 1998). Nonetheless, many researchers have empirically investigated the importance of organizational learning in enhancing organizational performance. For example, Baker and Sinkula (1999) tested the relationship between the orientation to learn and organizational performance, and the finding showed that organizational learning had a direct effect on organizational performance. Other researchers, who also used a culture measure of learning, have found similar results (Keskin, 2006).

Bontis, Crossan, and Hulland (2002) examined the relationship between stocks of learning at all levels and organizational performance; they concluded that a positive relationship existed between organizational learning and organizational performance. Calantone, Cavusgil, and Zhao (2002) conducted in-depth interviews with senior executives, and they reviewed the literature of organizational learning. After that

they distributed survey questionnaires to examine the impact of learning orientation on organizational performance. The findings showed that organizational learning effected a firm's innovation, which further impacted organizational performance.

Keskin (2006) conducted an empirical study in Turkey as one of the developing countries; he tested the relationship between a firm's innovativeness, organizational learning and market-orientation. The results indicated that organizational learning mediated the relationship between market-orientation and firm innovation. Thus, a firm's market-orientation positively influences organizational learning, which, in turn, affects a firm's innovations. Based on this linear relationship, they argued that organizational learning positively influences organizational performance.

In this context, some researchers have suggested that organizational knowledge as an output of organizational learning is an antecedent of innovation (Baker & Sinkula, 1999). Zheng, Yang, and McLean (2010) examined the possibility that knowledge management mediates the relationship between organization culture, organization structure and strategy. The results show that knowledge management fully mediates the relationship between organizational culture and organizational performance.

Jiménez-Jiménez and Sanz-Valle (2011) empirically examined the relationship between organizational learning, innovation and organizational performance. The results indicated a positive relationship between organizational learning in one hand on innovation and the organizational performance on the other hand. Santos-Vijande et al. (2012) measured the impact of organizational learning on improving financial, customer and market-related performance, the findings revealed that organizational

learning is an important instrument in this competitive and modern business environment to improve organizational performance.

Overall, previous results have provided empirical evidence to support the magnitude of organizational learning in enhancing organizational performance (Fiol & Lyles, 1985; Lord, 2014; Santos-Vijande, López-Sánchez, & Trespalacios, 2012; Snyder & Cummings, 1998). Additionally, organizational learning represents a successful management instrument to capture sustainable competitive advantages (Calantone, Cavusgil, & Zhao, 2002; Simons, 1990), which, in turn, maintains sustainable firm's growth and development. Based on that, the argument in the current study is that as organizational learning can positively influence organizational performance it is important to check the possibility of MCS in influencing organizational performance through organizational learning, which will be highlighted in the next section.

2.7.3 The Indirect Relationship of Management Control Systems, Organizational Learning and Organizational Performance

The ultimate aim of MCS is to assist in creating conditions in which an organization will be motivated to implement its strategies and plans to achieve desirable outcomes (Anthony & Govindarajan, 2007; Fisher, 1998). Desirable outcomes in business concerns are expressed by their ability to reach predetermined financial and non-financial goals (Hoque, 2005; Hoque & James, 2000).

Previous MCS literature has proven that effective design of MCS can enhance financial and non-financial performance to reach predetermined goals (Anthony & Govindarajan, 2007; Chenhall, 2003; Chenhall & Morris, 1986; Merchant & Van der Stede, 2011; Simons, 2013). Thus, effective MCS design can help improve the

bottom line in the condition that all expected external and internal factors are account for to avoid missing any factor that could reduce the effectiveness of MCS (Fisher, 1998; Hammad et al., 2013; Merchant et al., 1995; Otley, 2012).

The literature of MCS shows that the more firms fit their MCS to its circumstances the more those firms can achieve both tangible and intangible results (Chenhall, 2003). One intangible result that a company has is the ability to build its learning memory (Henri, 2006; Simons, 1990; Widener, 2007). With respect to the contradictory results that have been found in the previous literature, Simons (1990) has argued that MCS can stimulate organizational learning. Nevertheless, the question raised here is what is the benefit of building such learning memory, and accumulating experiences. This question was answered earlier in organizational learning literature as well as in RBV literature and many other fields and is the ability to build sustainable competitive advantage. This advantage improves organizational performance (Barney et al., 2001; Phillips & Calantone, 1994; Wernerfelt, 1984).

Thus, the relationship between MCS and organizational learning as well as the outcome of such relation on the organizational performance was examined before (Henri, 2006; Simons, 1990; Widener, 2007). For example, Simons (1990), one of the leading scholars in this area, has proven and supported this linear relationship. Furthermore, Simons (1990) has said that MCS should go beyond implementing strategy to create competitive advantages through building organizational learning.

Hence, once a company creates a competitive advantage that cannot be imitated by applying the RBV concept that company can sustain its growth in this competitive world environment (Hoopes et al., 2003; Wernerfelt, 1984). Businesses all over the world have a serious need to create tangible and intangible competitive resources to enhance their performance through designing effective MCS to stimulate organizational learning to ensure superior organizational performance.

Accordingly, its fundamental to test the ability of MCS to enhance organizational performance through a mediating variable. In different words, if MCS can enhance organizational performance the conclusion can be made that this enhancement will enhance performance. Therefore, it is important to examine the sequences of MCS. indeed, the more the literature provide knowledge about the sequences of MCS (organizational learning) the more effective design of MCS can be found in the companies. Based on that, this study aimed to add the mediating role of organizational learning between MCS and organizational performance to assist in better MCS design. However, more understanding about organizational performance as the ultimate aim of the current study will be discuss in the next sections.

2.8 Organizational Performance

Organizational performance is considered to be a major driving force behind any wealthy nation (Nickell, 1995). It is one of the indicators that top management uses to monitor organization activities to keep the organization and its strategies in the correct direction (Lynch & Cross, 1992; Neely, Mills, Platts, Gregory, & Richards, 1994; Skinner, 1971). According to this concept, companies worldwide continuously

work to enhance their performance through many continuous improvement techniques.

Therefore, organizational performance considers the indices of success, growth, prosperity, failure, strategy implementation, and goal achievements to provide assistance in decision-making (Lynch & Cross, 1992; Neely, 2002; Neely et al., 1994; Skinner, 1971). Performance in particular is a critical determinant of an organization's future, on the condition that the organization will use relative, reliable, credible and informative measurements to help in predicting tomorrow while learning from yesterday. Accordingly, measuring organizational performance requires using intelligent tools to provide the most valid and reliable performance feedback to fully control organizational performance, which will be discussed in the next section.

2.8.1 Measuring Organizational Performance

Measuring business performance is an important part of business management and provides a radar screen by which to control an organization (Marr & Schiuma, 2003). However, both the literature and business practices usually discuss performance measurement as a topic but do not attempt to define it (Neely, Gregory, & Platts, 2005). Thus, performance like control, is an ambiguous business term and must be defined more clearly and unequivocally (Schmid & Kretschmer, 2011). As a result of this ambiguity, Neely (2002) found in the literature that performance is measurable by either a number or an expression that allows communication, which, in fact, allows top management to compare planned with actual results, inputs to outputs, or surprising results to expectations (Neely, 2002).

Consequently, a literature review of the concept highlights the attempt of many researchers to formulate a definition of the term (Atkinson, Waterhouse, & Wells, 1997; Bititci, Carrie, & McDevitt, 1997; Bourne, Neely, Mills, & Platts, 2003; Kaplan & Norton, 1996; Otley, 2012). They considered performance measurement to be a system that includes many tools for measuring actions undertaken in an organization to control and monitor its activities.

Organizational performance measurement is a multi-dimensional construct, which comprises both financial and non-financial performance (Bourne et al., 2003; Meyer, 2003; Neely, 2002). This combination (Bungay & Goold, 1991; Franco-Santos et al., 2007), assesses the impact of actions on an organization's stakeholders (Bourne et al., 2003) and gives assistance to decision makers (Neely, 2002), among other benefits.

Based on that, firms must adopt a "two-eyes strategy" which implies that the organization must keep a focus on both financial and non-financial performance. This strategy requires the existence of an excellent balance between financial and non-financial measurements (Anthony & Govindarajan, 2007; Birley & Westhead, 1990; Hall, Johnson, & Turney, 1991; Hoque, 2005; Kaplan, 1990; Kaplan & Norton, 1996). As some performance such as customer satisfaction, innovation, employee satisfaction, internal business efficiency among others cannot be measured financially (Hoque, 2005; Kaplan & Norton, 1996; Otley, 1999), a balanced scorecard can be a useful tool because it can measure both financial and non-financial performance. Therefore, this study has chosen balanced scorecard to

measure the performance of the Palestinian listed firms to examine the performance covariance under different factors that included in this study. Accordingly, understanding the essence role of the balanced scorecard in measuring financial and non-financial performance will be highlighted in the next section.

2.8.2 Balanced Scorecard (BSC)

Kaplan and Norton (1992) devised the balanced scorecard (here after called BSC) as an integrated combination between financial and non-financial measurement. It has been one of the most important management tools in use for the last 75 years (Bourne, Neely, Platts, & Mills, 2002). Kaplan and Norton (1992) have argued that BSC can overcome the difficulties in the selection of the appropriate performance measurements through linking short-term operational controls with long-term strategy and vision. Hence, BSC can give an organization the opportunity to track the financial performance, while simultaneously measuring non-financial performance (Kaplan & Norton, 1992).

These financial and non-financial performance measurements of the BSC provide information in four main areas, namely, 1) financial performance, 2) customer satisfaction, 3) learning, 4) internal process. This represents a successful framework to assist firms translating business strategy into operational success. Hence, based on the ability of BSC to measure financial and non-financial performance, this study will adopt it to measure the performance of Palestinian listed firms.

2.9 Research Justifications

This section presents the literature justification for the importance of exploring MCS practices in less developed countries represented by the Arab world. These justifications are separated in two parts. First, is the importance of MCS research in less developed countries. Second, is the importance of MCS studies in Palestine as one of the Arab countries with an unstable political environment that causes high level of environmental uncertainty.

2.9.1 The Importance of Management Accounting Research in Less Developed Countries

The literature of management accounting reveals several reasons that justify the focus of studying in the context of less-developed countries. Foremost is the exploration of the contingency approach of using MCS technique due to literature inequality between well-developed and less-developed country. Most MCS research has been directed toward well- developed countries (Joshi, 2001; Waweru et al., 2004), whereas very little research has been done in the context of less-developed countries (Alattar et al., 2009; van Triest & Elshahat, 2007). Many researchers have recommended exploring MCS design in the context of developing countries, where the environment and culture differ from well-developed societies (Alattar et al., 2009; Alawattage et al., 2007; Kattan et al., 2007).

Moreover, the aspiration toward growth and prosperity in developing countries have been marginalized in MA research, although they have enormous populations, which is considered an important part of the world trade. (Alawattage et al., 2007). Therefore, there is an urgent need to study the role of MCS techniques that have been

used in developing countries to ensure that those practices are relevant to their environment and culture (Chenhall, 2003).

Last, the influence of MCS design on organizational learning in less developed countries is neglected especially in Arab countries. In addition, a literature review revealed that, to the best of this researcher's knowledge, the influence of MCS practices on organizational learning in the context of Palestine as one of the developing countries has not yet been studied. This emphasizes the question of how firms working under high level of political uncertainty, design MCS to stimulate organizational learning to ensure their survival and growth.

Overall, based on the comprehensive literature review of the current study, the conclusion can be made that MCS studies in the context of the developing economy such as the Arab world and specifically in the context of Palestine need intensive work to understand the design parameters of MCS under the pressure of the PEU as well as under the influence of the Arab national culture. In addition, an urgent need exists examine the ability of MCS under such contingent factors in building organizational learning to ultimately derive the performance of the Palestinian companies and any other organizations work under similar environment and culture. Therefore, different research gaps were found in this comprehensive literature review, which will be detailed in the final section of the current chapter.

2.9.2 Gaps in the Literature

As was discussed along this study regarding the contingent factors that influence MCS design, a very limited number of studies have examined the influence of PEU

originating from a political shift on MCS design. Previous studies have focused exclusively on well-developed countries to examine PEU that stems from the business environment itself, such as competition, technology, supplier relation, and change in consumer behaviour among others (Chenhall & Morris, 1986; Chong & Chong, 1997; Hammad et al., 2013; Hoque, 2005; Otley, 2012; Samuelson, 1999). Whereas, political shift as one of the macroeconomic factors (Mavondo, 1999) has received negligible attention in previous research (Kattan et al., 2007).

Furthermore, previous researchers, who have considered PEU stemming from political shift (Haldma & Lääts, 2002; Kattan et al., 2007), have examined this effect with respect to cost accounting (Haldma & Lääts, 2002), budgeting, planning, strategic decision making and non-financial measures (Kattan et al., 2007), and they investigated some parts of MCS but not the holistic perspective, which is the weakest point of their research.

Hence, a gap exists in the literature of how holistic MCS, such as levers of control, works under the pressure of external environmental variables that originate from political uncertainty. Briefly, a literature gap exists regarding the relationship between the levers of control and the external uncertainties that originate from the macroeconomic environment. This gap should be studied further to adjust levers of control to fit with the environment in which they will operate.

In addition, the relationship between MCS design and national culture has been the point of research directed toward advanced countries. This represents only one side of the world with respect to the cultural differences between advanced countries

(Chow et al., 1994; Harrison, 1992, 1993; Harrison & McKinnon, 1999; Harrison et al., 1994; Ueno & Sekaran, 1992; Van der Stede, 2002). In contrast, less developed societies such as Arab countries are missing in this global research.

Furthermore, previous studies investigated the relationship between MCS design and national culture have overlooked the holistic approach of MCS. For instance, they examined budget control practices (Harrison, 1992; Ueno & Sekaran, 1992), accounting performance measures (Harrison, 1993), size of performance and dependent reward (Merchant et al., 1995), participants in budget and evaluation (O'Connor, 1995), control system tightness, procedural controls and centralized directives (Chow et al., 1996) among others. Thus, the holistic approach of MCS, such as levers of control, has been omitted in those previous studies. Hence, because of this marginalized approach to the field of study, an overt literature gap exists with respect to the impact of cultural differences on the holistic control system, namely, levers of control.

Moreover, previous studies on the relationship between the levers of control and organizational learning have provided contradictory results, which have hidden the real influence of the levers of control on organizational learning. Besides, most of these studies were conducted in well-developed countries (Henri, 2006; Simons, 1990; Widener, 2007), which also represents different culture from the Arab culture. In this context, a literature gap exists in the understanding of how less-developed countries and especially the Arab world, adapts MCS to stimulate organizational learning.

Overall, the literature, especially the literature of the Arab world, with respect to MCS design and its contingent factors, particularly PEU and national cultural differences suffers from marginalization. Moreover, MCS design and organizational learning and the associated with cultural differences have not yet been documented. Furthermore, the relationship between organizational learning and Arab culture also needs further investigation to enhance organizational performance.

Accordingly, based on the existing research gaps that have been discussed and illustrated previously, an urgent exists need to fill full those gaps. Thus, by conducting this current study, theoretical contributions will be added to the existing literature regarding the antecedents and consequences of the MCS in the Arab world and specifically in Palestine.

2.10 Chapter Conclusion

This chapter has presented a review of the previous literature focusing on the relationship between MCS design and its contingent factors. The first contingent variable discussed was PEU, in particular political, competition, operational, and technological uncertainty. The second contingent variable was national culture in particular the applicable cultural dimension to the Arab culture in comparison to Anglo-American culture. Moreover, this chapter shows that the most relative empirical contingent-based research that has been conducted using the contingency theory. Furthermore, comments on the previous results are also presented.

In addition, this chapter reviewed the literature of MCS definition, important mechanisms and the holistic control framework of Merchant (1982), Malmi and Brown (2008), and Simons (1995). Furthermore, the relationship between MCS and

organizational learning was also shown. Additionally, the impact of organizational learning on organizational performance was presented. Research justifications with reference to less-developed countries and the Arab world environment and culture have been documented. Finally, the research gaps found during the literature review of this study were presented in a sequence according to the research framework. The next chapter introduces the theoretical framework and discusses the hypotheses that are formulated based on the literature review and the discussion regarding the relationships among the variables.

CHAPTER THREE
THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1 Introduction

The previous chapter discussed the relevant literature about PEU, national culture, MCS, organizational learning, and organizational performance. This chapter is concerned with the conceptual framework of these variables. Based on this conceptual framework and the relationships between the research variables, hypotheses development for each relationship is presented.

3.2 Theoretical Framework

Based on the previous literature reviewed and presented in Chapter Two, the conceptual framework illustrated in Figure 3.1 was developed. This conceptual framework highlights four main relationships based on contingency theory and RBV theory: 1) between antecedent variables (PEU & national culture) and MCS; 2) between MCS and organizational learning; 3) between organizational learning and organizational performance; and finally, 4) the relationship between MCS and organizational performance via the mediating role of the organizational learning.

Contingency theory has been applied as an underpinning theory to test the association between MCS and its antecedent factors, whereas RBV theory has been applied to examine the relationship between MCS and organizational learning as well as to test the association between organizational learning and organizational performance. Therefore, building on contingency theory and RBV theory and the discussion in Chapter Two, the following framework is introduced:

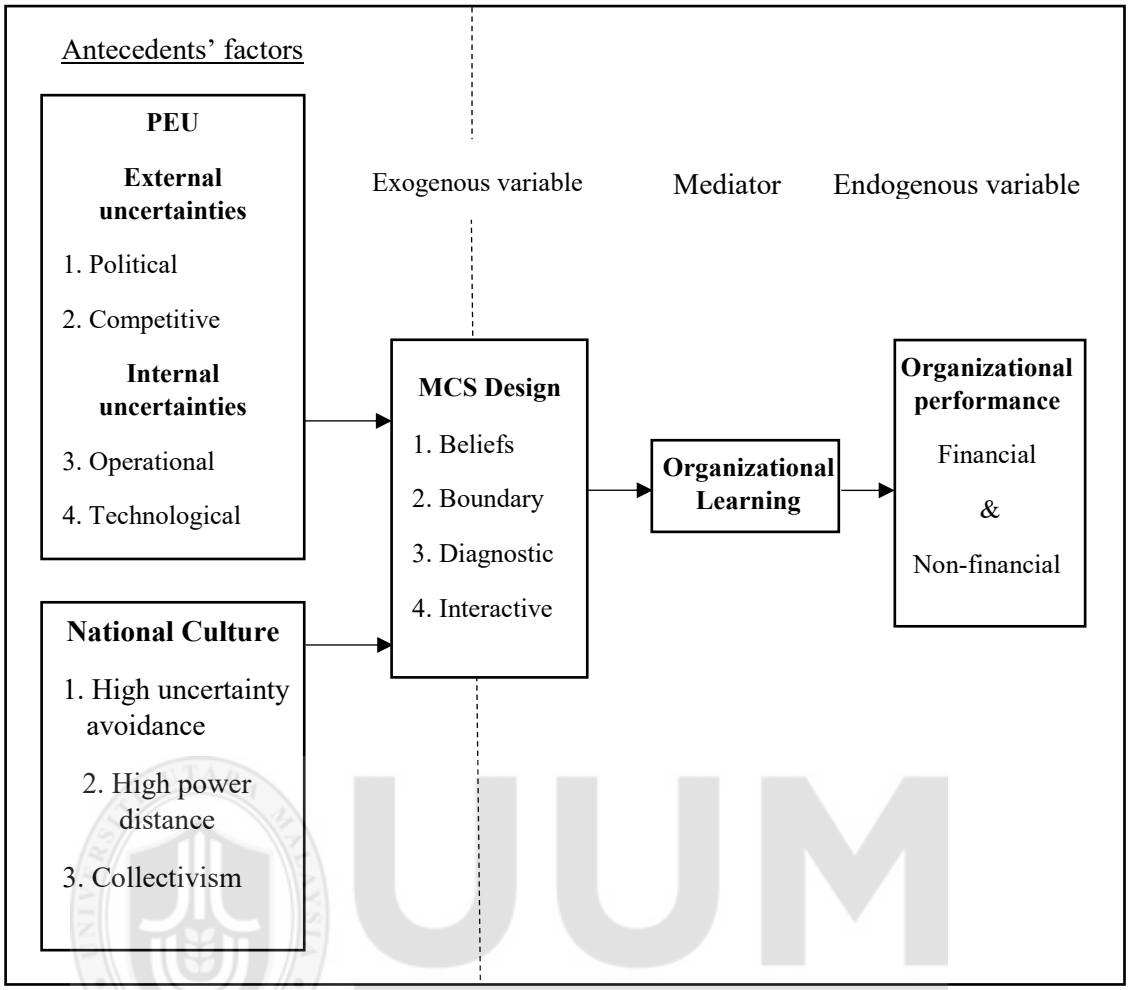

Figure 3.1
Conceptual framework of the relationship between research variables

As shown in Figure 3.1 this study proposes that external and internal environmental uncertainties and national culture will have a direct relationship with MCS. This assumption harmonizes with previous studies conducted by Chow et al. (1996), Chenhall (2003), Simons (1990), Widener (2007), Merchant et al. (1995), Hoque (2005), Harrison and McKinnon (1999) and Otley (2012) who revealed that environmental uncertainty and national culture differences have an influence on MCS design. Though this study framework harmonizes with previous studies, it is still unique because the study takes account of the influence of the political

environment and national culture on a holistic control approach namely, levers of control framework.

Furthermore, the research framework suggests that MCS has the ability to influence organizational learning, and this assumption is in agreement with previous research of Henri (2006), Batac and Carassus (2009), Widener (2007) Argyris (1994), Kloot (1997) and Simons (1990;1995). Additionally, the conceptual framework proposes that organizational learning mediates the relationship between MCS and the organizational performance. This is in harmony with researchers such Lee and Widener, (2012), who acknowledged the mediating role of organizational learning in influencing organizational performance.

The direct relationship between organizational learning and organizational performance coincides with previous research as that of Fiol and Lyles (1985), Sinkula (1994), Snyder and Cummings (1998), Bontis et al. (2002), Keskin, 2006, Santos-Vijande et al. (2012) and Lord (2014) who reported that organizational learning has a direct effect on the organizational performance. Though this study's framework harmonizes with previous studies, it is also unique. This study's framework for the first time combines research variables that have never been studied together before. For example, this included the influence of the political uncertainty and national culture on levers of control, which to the for the best of this researcher's knowledge, has never been studied before, which gives the study framework its uniqueness.

3.3 The Relationship between Research Variables

This section will illustrate the literature regarding the relationship between antecedent variables (PEU and national culture), MCS (beliefs, boundary, diagnostic, and interactive system), organizational learning, and organization performance to illustrate hypotheses development.

3.3.1 The Relationship between Perceived Environmental Uncertainty and Management Control System

The contingency approach of MCS holds that PEU, whether derived from internal or external sources, is important with respect to examining the design of MCS (Chenhall, 2003; Fisher, 1998; Kloot, 1997; Otley, 2012). Indeed, environment is a powerful contingent variable that is at the foundation of MCS design as well as contingency-based research. One of the most widely researched aspects of the environment is uncertainty (Chenhall, 2003). Since the 1970s, environmental uncertainty has received enormous attention in behavioural research (Tymon, Stout, & Shaw, 1998). Specific to MCS design, competition is considered to be a key component of uncertainty that stems from the external environment. During a time of uncertainty, top management requires more information processing to assist them in confronting any resultant harm (Chenhall & Morris, 1986; Khandwalla, 1977; Milliken, 1987).

Firms should design their MCS according to their external environmental pressures. Hence, more pressure in the external environment required greater use of sophisticated MCS to confront external challenges. Thus, knowing the degree of competitive, operational, technological and political uncertainty faced by the

Palestinian listed firms is vital to design effective control environment that can face the challenges and uncertainties.

For example, environmental uncertainty stemming from aggressive competition has been related to a reliance on formal control (Chenhall, 2003), wherein sophisticated accounting and statistical control should be implemented (Khandwalla, 1972). Thus, environmental uncertainty appears to require more reliance on formal control mechanisms and an emphasis on the budget (Chenhall, 2003; Otley, 1978). From these findings, the conclusion can be made that MCS design during uncertainty, whether originating from external or internal sources, has been associated with a need for more open, non-financial evaluation styles.

In addition, the control and organization literature reveals that organizations facing pressure use tight control systems as such pressure seriously threatens their survival and could end its existence. Therefore, to operate an organization effectively and to ensure its survival and growth, informal control techniques, flexible communication system and tight controls should be combined with more openness to ensure the flow of information (Chapman, 1998; Chenhall & Morris, 1995). Indeed, uncertainty requires an effective MCS to assist in gathering information needed to create and implement sound decisions. Based on that, in case of uncertainty, management should rank and prioritize various uncertainties according to their effect. They must monitor the highest uncertainty personally to ensure that organizational objectives are achieved.

In this context, Widener, (2007) examined the impact of technological uncertainty, operational uncertainty and competitive uncertainty on the levers of control. She reported that in the case of competitive uncertainties more attention and focus will be given to the use of interactive controls. In addition, operational uncertainty also has largest effect on the diagnostic and beliefs systems.

With respect to the rapid development of advanced technology and its influence on MCS design, Chenhall, (2003) argued that the development of advanced technology might be expected to require control to encourage flexible responses to keep complicated operational processes under control. Furthermore, the advanced technology that has begun dominating the global requires a high level of open communication among organizational members and an intelligent system to manage the inter-dependences. Hence, because of this complicated advanced technology, traditional MCS based on financial controls would not seem efficient under such circumstances.

Moving toward uncertainty stemming from political shift, the control literature has shown that changes in the external political environment in terms of external contingency factors are associated with changes in management accounting practice (Haldma and Lääts, 2002; Kattan et al., 2007). Kattan et al. (2007), showed that during high levels of environmental uncertainty, that stemming from political-economic uncertainty that dominating Palestinian environment, different changes happened to the MCS to effectively facilitate confronting the resultant harm of such uncertainty. For example, MCS and under the pressure of uncertainties should provide top management with more in depth information by using modern

accounting techniques instead of relying on traditional accounting information that unreliable during periods of high uncertainty for evaluating business performance.

In conclusion, Palestinian listed firms and under the pressure of the politico-economic uncertainty that representing in political, operational, competitive and technological uncertainty should design their MCS according to the existing level of uncertainties rather than using one design of MCS for all time. Based on that the following hypotheses (H1) and its sub hypotheses (H1a-H1d) expecting positive association between PEU in general and each dimension of PEU (political, operational, competitive and technological) with MCS.

H1: There is a positive significant association between PEU and MCS design.

H1a: There is a positive significant association between competitive uncertainty and MCS design.

H1b: There is a positive significant association between operational uncertainty and MCS design.

H1c: There is a positive significant association between political uncertainty and MCS design.

H1d: There is a positive significant association between technological uncertainty and MCS design.

However, in order to obtain an insight understanding about the relationship between PEU and each dimension of MCS (i.e., beliefs, boundary, diagnostic and interactive control) this study performed further hypotheses to assess the influence of the PEU on each dimension of LOC framework. Thus, the

following sections discuss the association between PEU and each of belief, boundary, diagnostic and interactive control. Following each section the expected hypothesis is presented.

3.3.1.1 The relationship between perceived environmental uncertainty and beliefs control system

Organization on the condition of uncertainty uses beliefs control systems to manage and control uncertainty. Beliefs systems can help ensure that employees' behaviour are consistent with organizational objectives in order to minimize the possibility of harm instigating from uncertainty (Widener, 2007). As uncertainty is considered a source of problems that hinder organizations to achieve its objectives and implementing its strategy, Simons (1995, p. 36) described the importance of beliefs system to tackle this problem and stated, "when problems arise in implementing strategy, a beliefs system help participants to determine the type of problem to tackle and solutions to search for".

Firms that face uncertainty, whatever the source or type of uncertainty it may be, must use beliefs system to inspire its members to search for new ways of survival. Under this assumption, the Palestinian firms that work under high level of political uncertainty that has its influence on its operational process in addition to aggressive competition and the rapid development of advanced technology may rely on beliefs system to invigorate the morale of organization members in order to initiate, explore and search to find new solutions to cope with such uncertainties. Moreover, Widener, (2007) found that, operational uncertainty has the largest effect on the beliefs control system. In this context, the following hypothesis illustrates the expected relationship between PEU and beliefs control system.

H1e: There is a positive significant association between PEU and beliefs control system.

3.3.1.2 The relationship between perceived environmental uncertainty boundary control system

Additionally, firms use boundary system to manage and decrease the uncertainty side effect. In this context, as previously highlighted in the literature review, Merchant (1990) tested the impact of PEU on data manipulation. He concludes that, under the condition of uncertainty, profit canter managers are more likely to engage in data manipulation, which further stresses the need to design an appropriate boundary system to set the most accurate limits and constrains to protect the organization.

These limits and constraints are termed the boundary system, which works in opposite manner to the beliefs system. A boundary system must be designed based on the beliefs system to set the most accurate limits and constraints to keep the positive energy of beliefs systems under control. A boundary system "delineates the acceptable domain of strategic activity for organizational participants" (Simons, 1995, p. 39). The idea behind the boundary system is to communicate clearly the actions and/or behaviour that the organizational members should avoid. Its purpose is to allow employees the freedom to search, initiate, and innovate within certain pre-defined areas, which is vital specially during the time of uncertainty.

Hence, firms under the pressure of environmental uncertainty should design effective boundary control system to protect its survival and growth, which has also been emphasized previously by many researchers such as Khandwalla (1972); Otley (1978) and Bromwich (1990). In addition, Widener, (2007) reported that operational uncertainty has its influence on boundary control system. Therefore, internal and

external source of uncertainties that faced by the Palestinian listed firms namely, political, competitive, operational and technological uncertainty need appropriate reliance on boundary system to set appropriate limits and constraints on employee's searching behaviour that was motivated previously by beliefs system. Based on this discussion, a positive association is expected between PEU and boundary system, which illustrates in the following hypothesis.

H1f: There is a positive significant association between PEU and boundary control system.

3.3.1.3 The relationship between perceived environmental uncertainty and diagnostic control system

Firms also use the diagnostic control to confront and manage uncertainty (Kattan et al., 2007; Simons, 2000), because diagnostic control system includes many techniques that can give a sign about the organizational performance to compare it with planed and / or desired, and as such, organizations can use this kind of control system to keep its performance on track (Simons, 2000). In fact, diagnostic systems, which are considered an important facet of performance measures (PM), provide direction to make sound decisions through measuring and communicating output.

In this context, diagnostic control systems facilitate gathering and distribute information throughout the firm, which is a vital task in the case of environmental uncertainty to take sound decisions (Chenhall, 2003; Chenhall & Morris, 1986; Kattan et al., 2007). Hence, firms that face uncertainty must design its diagnostic system in a way that can assist in processing the most relevant and reliable information at the appropriate time. This assumption has encouraged Widener, (2007) to investigate the impact of operational uncertainty on MCS design. She

found that, operational uncertainty has large effect on diagnostic control systems. Thus, it can be expected diagnostic control system provide a great solution in case of uncertainty by providing the most relative information in the right time.

According to the previous explanation, political, competition, operational and technological uncertainties requires an appropriate diagnostic system that can produce financial and non-financial information to assist in making sound decisions. Thus, it expected a positive association between PEU and diagnostic control system, as illustrated in the following hypothesis.

H1g: There is a positive significant association between PEU and diagnostic control systems.

3.3.1.4 The relationship between perceived environmental uncertainty and interactive control system

However, the interactive control system could be the most relative control system in the condition of uncertainty as this system allows top management to engage personally in monitoring threats and capturing opportunities in order to survive (Simons, 1995). Previous research shows that interactive control systems are relative and effective to the firms that are facing different kinds of environmental uncertainty such as technological uncertainty and market uncertainty (Bisbe & Otley, 2004; Simons, 1990).

For example, Bisbe and Otley (2004) argue that firms can have higher performance in the case of uncertainty if they use control systems interactively. In addition, Simons (1990) concludes that, an interactive control system is used by top management to set agendas to confront uncertainty. Furthermore, Simons (1991)

found that uncertainty originating from market competition is associated with the use of interactive control system, which is consistent with Widener, (2007) who reports that competitive uncertainties drive control system, which implies that firms use interactive control system to scan the external environment in order to rapid its response to tackle environmental uncertainties.

Thus, it's expected that the Palestinian listed firms who faced political, operational, competitive and technological uncertainty to give proper attention their interactive control to face these surrounding uncertainties. Based on that a positive association is expected between PEU and interactive control system, which presented in the following hypothesis

H1h: There is a positive significant association between PEU and interactive control system.

3.3.2 The Relationship between National Culture and Management Control System

The relationship between national culture and MCS design represents an extension of contingency-based research from its organizational basis into a more sociological concern. (Chenhall, 2003). This concern seems as a logical response due to the increase in the number of businesses across nations resulting from globalization (Harrison & McKinnon, 1999; Harrison et al., 1994; Merchant et al., 1995). Accordingly, national culture in which the company operates and function it supposed to influence the company. This influence is because people behaviour is a product of their culture which in turn will impact the organization behaviour, culture, communication channel, and MCS among others.

In this context, most previous researchers reported that national culture has an influence on MCS design (Chow et al., 1999; Dik, 2011; Harrison & McKinnon, 1999; Hooghiemstra, Hermes, & Emanuels, 2015; Suh, 2016; Ueno & Wu, 1993; Van der Stede, 2002; Van Everdingen & Waarts, 2003). Thus, Arab culture are supposed have its special influence on MCS. Based on that, the following hypothesis illustrates this relationship.

H2: There is a positive significant association between national culture and MCS design.

This current study adopted LOC framework, which comprises beliefs, boundary, diagnostic, and interactive control systems. Hence, the next sub-sections will separately discuss the influence of the national culture dimensions (i.e., high uncertainty avoidance, collectivism, and high-power distance) on each dimension of levers of control (i.e., beliefs, boundary, diagnostic, and interactive control) separately. Following each sub-section, the proposed hypothesis will be posited.

3.3.3 High Uncertainty Avoidance Culture and Levers of Control

This section will discuss the expected association between high uncertainty avoidance culture and each dimension of the levers of control (i.e., beliefs, boundary, diagnostic, and interactive control) separately. Following each sub-section, the proposed hypothesis will be posited.

3.3.3.1 High uncertainty avoidance and beliefs control system

Societies with high level of uncertainty avoidance are wary of their future. They believe that uncertainty is inherent in their lives, which represents a continuous source of threat that must be deal with (Hofstede et al., 2010). As a result, they

adhere to strict laws, rules, security, safety and they believe that absolute truth is the way to confront uncertainty (Hofstede & Bond, 1988). Hofstede (1984) noted that strong uncertainty avoidance societies maintain rigid codes of beliefs and behaviour and are intolerant toward deviant persons and ideas. In such cases, top managers will try to fully use the essential role of belief systems in encouraging organizational members to search for, initiate, and develop new ideas to avoid future uncertainty. Searching for, initiating, and developing new ideas is an ideal way to avoid future uncertainty especially in an era of rapid market changes.

Furthermore, because such a culture adheres to strict laws, rules and adherence to security and safety and is assertive and risk averse, this culture may clearly communicate predetermined areas of searching and initiating. Hence, strict laws, rules and adherence to security may assist in precisely describing the appropriate freedoms for the beliefs system to fully equip organizational members with required positive energy to come up with new ideas for survival and growth. Moreover, as a strong uncertainty avoidance society believes that absolute truth is the way to confront uncertainty (Hofstede et al., 2010), this may influence searching for and initiating new solutions to be more systematic. Based on the above discussion, the following hypothesis illustrate the expected association between high uncertainty avoidance culture and beliefs system.

H2a: There is a positive association between high uncertainty avoidance culture and beliefs control system.

3.3.3.2 High uncertainty avoidance and boundary control system

Since societies of strong uncertainty avoidance culture are assertive and risk averse (Hofstede et al., 2010), such society tends to avoid uncertainty by formal control such as rules, procedures, code of conduct, laws, and desired versus undesired action. In fact, people from high uncertainty avoidance culture feel uncomfortable if there are no rules and procedures (Hofstede, 1984), hence, autocratic style of management and control will be found in their organizations as well as less participation with a preference for rule-based.

Accordingly, boundary system is considered as the optimal solution for such societies, since boundary system provides the appropriate rules, procedures and code of conduct to control employees and organization behaviour. In this context, Hofstede (1984, p. 93) noted that, "we can expect more formalization, standarization and ritualization in strong uncertainty avoidance countries". Thus, such societies try to feel more secure by creating a sense of control through high level of avoiding uncertainty by relying on formal rules and procedures that embedded in boundary system.

For that end, boundary system in such kind of culture is considered as the optimal control solution, due to its ability in providing the appropriate rules, procedures and code of conduct to control employees and organization behaviour (Simons, 1995). However, although the importance of matching between uncertainty avoidance culture and its possible influence in the process of MCS design, stressing too much on boundary system as a natural behaviour in such culture will result in tightness control system or, in different words, will lead to rigid control system. Hence, it's expected that companies from high uncertainty avoidance culture will give great

attention to the boundary system as such kind of control provide the optimal control techniques to avoid uncertainty. Based on that, the following proposed hypothesis illustrates the expected relationship between high uncertainty avoidance culture and boundary control system.

H2b: There is a positive significant association between high uncertainty avoidance culture and boundary control system.

3.3.3.3 High uncertainty avoidance and diagnostic control system

Societies of strong uncertainty avoidance culture try to feel secure by avoiding risk and be more assertive (Hofstede et al., 2010). Hofstede and Hofstede (2004) noted that, societies of strong uncertainty avoidance feel threatened by ambiguous or unknown situations. Consequently, such societies will try to feel more secure by creating a sense of control through high level of avoiding uncertainty, which may influence the behaviour of the top management in the process of preparing diagnostic control components such as profit plans and budget to be as much as possible achievable with the aim of avoiding risk and any future uncertainty.

Furthermore, managers in such culture will try to exclude any uncertain factor from those plans and budget to avoid any future problems regarding the achievements of those plans and budgets because they are anxious about their future (Hofstede et al., 2010). This assumption is harmonic with Chow et al., (1999) whom conclude that people from high uncertainty avoidance culture prefer to exclude any factors that are beyond their control in evaluating their performance.

However, the impact of sufficiency of setting achievable plans and budget may deprive the company from stretching it self for better financial and non-financial performance to maintain its competitive position in its respective industry locally and globally. As a result, diagnostic controls in such a culture are supposed to be designed carefully and used to avoid uncertainty. Based on the above discussion the following proposed hypothesis illustrates the expected relationship between diagnostic control system and high uncertainty avoidance culture.

H2c: There is a positive association between high uncertainty avoidance culture and diagnostic control system.

3.3.3.4 High uncertainty avoidance and interactive control system

High uncertainty avoidance societies are wary about their future and, indeed, anxiety is inherent in members of these societies (Hofstede & Hofstede, 2001). Thus, such anxiety may influence the behaviour of top management regarding the use of interactive controls. In this context, these managers will try to decrease anxiety by using MCS interactively to ensure that their future is more secure because members of such culture feel threatened by ambiguous or unknown situations (Hofstede & Hofstede, 2004), which encourages them to deal personally with any potential source of uncertainty.

This assumption, is consistent with previous sociological research that predicts such behaviour (e.g., Hofstede,1980). Thus, managers from a strong uncertainty avoidance culture will attempt to feel more secure by creating a sense of control through using MCS interactively. Based on the above discussion, hypothesis H2-d posits an

expected association between a high uncertainty avoidance culture and interactive control system.

H2d: There is a positive association between high uncertainty avoidance culture and interactive control system.

3.3.4 Collectivist Culture and Levers of Control

This section discusses the influence of the collectivist culture on each dimensions of levers of control (i.e., beliefs, boundary, diagnostic and interactive control), in the following sub sections.

3.3.4.1 Collectivism culture and beliefs control system

A collectivist culture refers to, a "society in which people from birth onward are integrated into strong and cohesive in-groups, which throughout people's lifetimes continue to protect them in exchange for unquestioning loyalty" (Hofstede & Hofstede, 2004, p. 76). Therefore, the relationship between employer and employee has a moral component, which implies that the employer should protect its employees in return for their loyalty and that will be reflected on the MCS in general and on beliefs system in particular.

In this context, employees from a collectivist culture are expected to be fully motivated in achieving the aims of this belief system by searching, creating, and exploring to determine a problem when it is arises as well as to find an appropriate way to tackle the determined problem. Through a communication network, an organization's core values and mission statement can be successfully communicated and thus keep the organization consistent with its core values. Employees from a

collectivist culture is expected to show their loyalty in protecting and maintaining their group success by fully participating in the beliefs system.

This moral component existing between employer and employees can assist in decreasing control costs on the one hand and increasing the effectiveness of organizational performance on the other hand due to a positive relationship between employer and employees. Employee loyalty and motivation toward achieving group success is the driving factor behind belief systems in a collectivist culture; such loyalty and motivation have the ability to equip the organization with the required positive energy to sustain internal organizational consistency to face external environmental uncertainties dominating business environment, especially in the face of the increased level of the global competition. However, based on the above discussion the following proposed hypothesis illustrates the relationship between collectivism culture and beliefs system.

H2e: There is positive association between collectivism culture and beliefs system.

3.3.4.2 Collectivism culture and boundary control system

People from collectivism culture are more concerned about group success and they do not have the same level of self-interest that appears in individualism culture (Hofstede et al., 2010). Therefore, boundary control system is supposed to be loose because the people already have the motivation to protect their organization as it represents their group umbrella. However, as the purpose of boundary system is to set limits and constraints to protect organizational assets, behaviour, survival and growth (Simons, 1995). Collectivism culture provide the fundamental role of the

boundary system since people from such culture are already have the sense of protecting their organization from and dysfunctional or deviant behaviour that impeded in boundary system. Therefore, individuals' loyalty toward group success in the collectivism culture might assist to design motivated boundary system instead of restricted boundary system.

Indeed, restricted boundary system has many negative side effect includes: Firstly, push organization members to lose their motivation and loyalty due to such extreme restrictions, secondly, restricted boundary system might destructed internal consistency due to motivation discouragement and thirdly restricted boundary system required more resources to be designed and that mean increase the control cost without assurance of its effectiveness. Hence, in the case of restricted boundary system organization could empire the internal consistency between its members and departments and that has negative side effect on the total organizational performance.

Thus, organization from collectivism culture are expected to exploit their employees' motivation toward group success to build motivated boundary system instead of restricted one due to the advantage of motivated boundary system over the restricted one in achieve organization goals and objectives. Accordingly, the more the society has higher score in the collectivist scale the more the companies will ease the stress use of boundary system. The following proposed hypothesis illustrates this expected relationship between collectivism culture and boundary system.

H2f: There is a negative association between collectivism culture and boundary control system.

3.3.4.3 Collectivism culture and diagnostic control system

Diagnostic control is the backbone of MCS. It is concerned about setting plans and budgets as well as measures the performance to make comparison between actual and desired outcomes (Simons, 1995). Preparing those plans and budgets in collectivism culture will suppose not to be limited to the top management since collectivism societies believe in-group work and there is already communication network in this kind of culture (Hofstede et al., 2010), which will assist in setting those plans and budget after a proper communication between superiors and their subordinates.

Add to this, the influence of collectivism culture on the internal consistency between organization members and departments may influence organizational culture to be more cooperative and that definitely will result in setting efficient and relevant plans and budget due to high level of communication, cooperation and coordination as a natural influence of the collectivism culture. Moreover, measuring and communicating organizational performance that impeded in diagnostic control may be more flexible because there are already effective communication channels in the collectivism culture. Based on the above discussion, positive association is expected to govern the association between collectivist culture and diagnostic control as its proposed in the following hypothesis.

H2g: There is a positive association between collectivism culture and diagnostic control system.

3.3.4.4 Collectivism and interactive control system

As collectivism culture is more concerned about group success (Hofstede et al., 2010), both the superiors and the subordinates are supposed to be more concerned about the source of group success that imply in achieving organization goals and objectives, which may result in better coordination and communication between superiors and their subordinates in the collectivism culture.

Hence, interactive use of MCS in this scenario may become more efficient due to this coordination and communication, in fact, subordinates in this case are supposed to be more motivated to participate in the interactive use of MCS by providing the required information through the establishment communication channel. Simons (1995, p. 92) comments on the importance of this cooperation and coordination to create an information network in order to monitor critical success factors. He states, "senior managers must encourage continuous search activity and create information network… Individual must share information with others".

Thus, sharing of information through establishing communication networks could be more applicable to collectivism culture, as there already exists a communication network and that will positively influence interactive control. Based on that, the following proposed hypothesis illustrates the expected relationship between collectivism culture and interactive use of MCS.

H2h: There is a positive association between collectivism culture and interactive use of MCS.

3.3.5 High Power Distance and Levers of Control

This section will discuss the expected influence of high power distance culture on each dimension of levers of control (i.e., beliefs, boundary, diagnostic and interactive control). Following each sub-section the expected hypothesis will also take place.

3.3.5.1 High power distance culture and beliefs control system

Power distance represents "the extent to which less powerful members of institutions and organizations within a country accept that power is distributed unequally" (Hofstede et al., 2010, p. 61). Power distance was theoretically identified as the main cultural dimension that determines the appropriate relationship between the superior and subordinate, top management and middle management, in short, the relationship between organizational hierarchies (Harrison, 1993; Hofstede, 1984; O'Connor, 1995).

In this context, Simons (1995, p. 37) commented on the importance of decreasing the distance between middle managers and top management with the purpose of inspiring middle managers to participate in beliefs control system to transform organizational beliefs into action and strategies. He stated;

> "Middle managers are especially important in identifying and creating strategic initiatives, these managers will not become enthusiastic participants in the search for opportunity if they do not understand the beliefs of the organization and are not invited to participate in transforming those beliefs into action and strategies" (P. 37)

Thus, in a high power distance culture where there is a big distance between top management and middle management, the aim of this beliefs system to stimulate organization members to search, create, explore and initiate to determine the problem when it is a rise as well as to find the appropriate way to tackle the determined problem through the communicating organization core value and mission statement to keep the organization consistent with its core value, may be absent from LOC framework due to such distance between top and middle managers in high power distance culture , and, as such, the essential role of beliefs system as the base of LOC will be missing, which will resulted in disordering the consequence of the LOC components. Thus, the more the society have high rank on the power distance scale the more they will neglect the use of belief system. In different words, negative association is expected to govern the association between high power distance and beliefs control system as illustrated in the following hypothesis.

H2i: There is a negative association between high power distance culture and beliefs system.

3.3.5.2 High power distance culture and boundary control system

As the boundary system is responsible to impose limits and constraints on organizational activities (Simons, 1995), top management in high power distance culture are expected to use boundary system with the intention of maintaining high distance between top and middle managers as well as to keep distance between organization managers and the rest of organization members due to the influence of high power distance characteristics, especially the propensity toward maintaining high distance between ruler and the ruled.

Consequently, boundary systems under this kind of culture will be designed and used to maintain high distance between superiors and their subordinates instead of focusing on how to set the appropriate limits and constraints on opportunity seeking behaviour that was established and motivated by beliefs system. In doing so, the fundamental aim of the boundary system in providing control techniques through imposing constraints such as code of conduct, proscribed behaviour, rules and procedures, action to be avoided as well as limits that are established based on pre-defined business risk (Simons, 1995) could be the second aim of boundary system after establishing and maintaining high distance between high and low organization members (ruler and the ruled) due to the influence of high power distance culture on the mentality and behaviour of its members.

In fact, if this is the case in such culture this may impede the ability to design efficient boundary system to protect organization and its members due to the priorities of maintaining high distance first, which could open many gaps in MCS in general and in boundary system in particular, and that may lead to empire the essential role of boundary system. Based on the above discussion, the following hypothesis illustrates this expected relationship.

H2j: There is a positive association between high power distance culture and boundary control system.

3.3.5.3 High power distance culture and diagnostic control system

Diagnostic control is responsible to measure the actual performance of the company in comparison with the expected through setting plans, budget, and objectives (Simons, 1995). The possible influence of high power distance culture, in this case

will result in setting those plans and budgets in the top management office without appropriate communication between top management and lower level management due to high distance between both of them.

In fact, exploiting boundary system in establishing and maintaining high distance between high and low organization members as was discussed earlier may be the reason behind setting plans and budget in superior office without appropriate communication with their subordinates, because such distance will extend to influence the communication channels all over the organization and that may impede the ability of low-level managers or their employees to participate or even give their point view regarding those plans and/or budget, and that may result in setting unachievable or irrelevant plans and/or budget.

Add to this, individuals who will not participate in setting those plans and budget cannot understand the importance of their performance toward achieving those plans and budget, which will empire the fundamental role of diagnostic control as the backbone of MCS in establishing, measuring, communicating and comparing the actual performance with the desired one. In different words, such distance between superior and subordinates will extend to influence the communication channels and that for sure will affect the flexibility of measuring and communicating organizational performance that embedded in diagnostic control. However, the following proposed hypothesis illustrates this relationship.

H2k: There is a negative association between high power distance culture and diagnostic control system.

3.3.5.4 High power distance culture and interactive control system

Interactive control represent to which level top managers will engage personally in monitoring the outcome of any control systems, to stimulate search and learning in order to allowing new strategies to emerge (Simons, 1990). This in turn, required high level of communication and coordination between superior and their subordinates. By contrast, high power distance societies are described by the vast distance between superiors and subordinates (Harrison, 1993; Hofstede, 1984; O'Connor, 1995), and that has its negative side effect on the relationship between superiors and their subordinates which will influence the communication effectiveness between both of them.

Add to this, obedience relationship usually governs the relation between top and lower level managers (Child, 1981; Hofstede, 1980) and that may lead the subordinates to be afraid to argue if the emerge strategy or objectives, as the fundamental role of interactive use of MCS, are not achievable. Therefore, searching and learning as the main aim of interactive control system may suffer from this obedience relationship. Hence, whatever the control systems that top management choose to engage in personally, without appropriate communication between top managers and lower-level managers the effectiveness of interactive use of any control system will be limited to the communication level within the organization. Based on the above discussion, the following proposed hypothesis further illustrates this relationship.

H2l: There is a negative association between high power distance culture and interactive control system.

3.3.3 The Relationship between Management Control System and Organizational Learning

Organizational learning at a basic concept means the development of prudence through the acquisition of new knowledge that has the potential to influence behaviour (Sinkula, 1994; Slater & Narver, 1995). Organizational learning is often established as a result of training, knowledge acquisition, stakeholder engagement or collaboration between intra-organizational and inter-organizational partners (Oelze, Hoejmose, Habisch, & Millington, 2014).

Organizational learning development is viewed as history-dependent, routine-based, and target-oriented. Therefore, historical experience is considered to be a source of prudence and knowledge by adapting and formalizing routine activities that lead to organizational learning to guide the desired behaviour. Thus, routine interpretations are based more on past experiences than on future expectations (Levitt & March, 1988).

In the other hand, MCS represent the formalized routine (Simons, 2000) that are intended to control and guide behaviour leading to stimulating organizational learning. Previous literature has established that effective MCS can contribute positively in building and acquire learning (Marginson, 2002; Simons, 1995; Widener, 2007). In fact, learning and acquiring new knowledge in the organization depend upon the interaction with surrounding environment hand (Lee, Courtney Jr, & O'keefe, 1992). In the other hand, MCS is responsible to let organization and its member to deal effectively with its environment. As a result, MCS and based on his ability to deal effectively with the surrounding environment has the ability to stimulate culture of curiosity learning. This learning in turn has the ability to build

imitable competitive advantage by exploiting the positive association between MCS and organizational learning. Based on the previous discussion, a positive relationship is supposed to govern the association between MCS and organizational learning. The following hypothesis represent this expected relation.

H3: There is a positive relationship between MCS and organizational learning.

3.3.4 The Relationship between Organizational Learning and Organizational Performance

The fundamental aim of organizational learning is to create a competitive advantage, which ultimately will lead to superior firm performance (Baker & Sinkula, 1999; Calantone et al., 2002; Lord, 2014; Zheng et al., 2010). Previous literature has established a theoretical association between organizational learning and organizational performance, which has led to the description of organizational learning as a successful management instrument applied to gain a sustainable competitive advantage as well as an important long-term tool for growth and development (Bontis et al., 2002; Keskin, 2006; Lord, 2014; Zheng et al., 2010).

This fundamental role of organizational learning in enhancing organizational performance has been investigated empirically by many researchers. For example, Baker and Sinkula (1999) tested the relationship between the orientation to learn and organizational performance and found that organizational learning has a direct effect on organizational performance. Other researchers, which also use a culture measure of learning, have found similar results (Keskin, 2006).

Bontis et al. (2002) examined the relationship between stocks of learning at all levels and organizational performance, and they concluded that a positive relationship was present between organizational learning and organizational performance. Calantone et al. (2002), conducted in-depth interviews with senior executive managers to examine the impact of organizational learning on the organizational performance. The study revealed that organizational learning enhances a firm's innovation, which has a direct impact on organizational performance. Tippins and Sohi (2003) empirically provided evidence regarding the positive influence of organizational learning on performance.

Chenhall (2005) provided additional evidence, finding that organizational learning has the ability to enhance delivery outcomes, which, in turn, enhances performance. Henri (2006) and Widener (2007) also provided empirical support for the positive influence of learning on performance. Because of this previous research, the following hypothesis positing the relationship between organizational learning and the organizational performance:

H4: There is a positive relationship between organizational learning and organizational performance.

3.3.5 The Relationship between Management Control System, Organizational Learning, and Organizational Performance

MCS literature has established that effective MCS design has the ability to enhance financial and non-financial performance to reach the predetermined goals (Anthony & Govindarajan, 2007; Chenhall, 2003; Chenhall & Morris, 1986; Merchant & Van der Stede, 2011; Simons, 2013). The literature also suggests that effective MCS can

achieve the maximum tangible and intangible results. One of those non tangible results is organizational learning (Simons, 1990).

Building organization learning can assist an organization to develop a sustainable competitive advantage, which eventually improves organizational performance (Barney et al., 2001; Phillips & Calantone, 1994; Turner & Pennington, 2015; Wernerfelt, 1984). Businesses all over the world have a serious need to create tangible and intangible competitive resources to enhance their performance through designing effective MCS to stimulate organizational learning in order to ensure superior organizational performance.

This mediating relationship between MCS and organizational performance via organizational learning has been empirically tested by Lee and Widener, (2012), and they confirmed the mediating role of the organizational learning between MCS and organizational performance. However, although fewer empirical studies have empirically tested this mediating relationship, Simons, (1990) argued that MCS can positively influence organizational performance through search and learning. Accordingly, organizational learning is supposed to mediate the relationship between MCS and organizational performance.

Based on this literature, organizational learning can mediate the relationship between MCS and organizational performance. The following hypotheses posits these relationships:

H5: Organizational learning mediate the relationship between MCS and organizational performance.

3.4 Summary of the Research Objectives and Research Hypotheses

This section elaborates on the relationship between each research objective and its hypotheses. Table 3.1 shows the hypotheses of the current study. The first hypothesis (H1) is concerned about the first objective, which is to examine the impact of PEU on MCS represented by LOC framework. H2 examines the influence of national culture on MCS design and that is objective number two of this study. H3 posits the hypothesis for the third objective and that is concern with the effect of MCS on stimulating organizational learning. Whereas, H4 is developed to test the influence of organizational learning on organizational performance. Finally, H5 posits the hypothesis of the last objective, which is to examine whether organizational learning mediates the relationship between MCS and organizational performance.

Table 3.1
Research Objectives and its Hypotheses

Research objective	Hypotheses
1. To examine the influence of PEU on the design and use of MCS	**H1:** There is a positive significant association between PEU and MCS design. **H1a:** There is a positive significant association between competitive uncertainty and MCS design. **H1b:** There is a positive significant association between operational uncertainty and MCS design. **H1c:** There is a positive significant association between political uncertainty and MCS design. **H1d:** There is a positive significant association between technological uncertainty and MCS design. **H1e:** There is a positive significant association between PEU and beliefs control system. **H1f:** There is a positive significant association between PEU and boundary control system. **H1g:** There is a positive significant association between PEU and diagnostic control systems. **H1h:** There is a positive significant association between PEU and interactive control system.

Table 3.1 (Continued)

Research objective	Hypotheses
2. To examine the influence of national culture on the design and use of MCS.	**H 2:** There is a positive significant association between national culture and MCS design. **H2a:** There is a positive association between high uncertainty avoidance culture and beliefs control system. **H2b:** There is a positive significant association between high uncertainty avoidance culture and boundary control system. **H2c:** There is a positive significant association between high uncertainty avoidance culture and diagnostic control system. **H2d:** There is a positive association between high uncertainty avoidance culture and interactive control system.
2. To examine the influence of national culture on the design and use of MCS.	**H2e:** There is positive association between collectivism culture and beliefs system. **H2f:** There is a negative association between collectivism culture and boundary control system. **H2g:** There is a positive association between collectivism culture and diagnostic control system. **H2h:** There is a positive association between collectivism culture and interactive use of MCS. **H2i:** There is a negative association between high power distance culture and beliefs system. **H2j:** There is a positive association between high power distance culture and boundary control system. **H2k:** There is a negative association between high power distance culture and diagnostic control system. **H2l:** There is a negative relationship between high power distance culture and interactive control system.
3. To examine the influence of MCS on organizational learning in Palestinian listed firms.	**H3:** There is a positive relationship between MCS and organization learning.
3. To examine the influence of MCS on organizational learning in Palestinian listed firms.	**H3:** There is a positive relationship between MCS and organization learning.
4. To examine the influence of the organizational learning on organizational performance	**H4:** There is a positive relationship between organizational learning and organizational performance.
5. To examine whether organizational learning mediates the relationship between MCS and organizational performance in the Palestinian listed firms.	**H5:** Organizational learning mediate the relationship between MCS and organizational performance.

3.5 Chapter Conclusion

This chapter discussed the conceptual framework and the hypotheses development of this research. Five direct relationships comprising the research framework were displayed. Additionally, a summary of the research objectives and their hypotheses were also presented. The research methodology will be outlined in the next chapter.

CHAPTER FOUR
METHODOLOGY

4.1 Introduction

In this chapter, the research methods and techniques that were adopted in this study are described. The chapter explains the research design, unit of analysis, population and sample, measurement of the variables, questionnaire design the data collection procedure, data analysis techniques and the results of the pilot study.

4.2 Research Design

Two types of research design may be utilized in order to arrive at a solution to the research problem: 1) quantitative and 2) qualitative approach (Sekaran & Bougie, 2010; Zikmund, 2003). A qualitative method is unstructured and exploratory in nature, allowing the researcher to involve only a small number of respondents (Wong, 2002; Zikmund, 2003). Respondents in a qualitative method provide information about their feelings, thoughts, and views. Therefore, researchers cannot generalize the results to whole population due to the limitation of the sample size (Zikmund, 2003). A qualitative approach is designed for the purpose of exploring rather than calculating (D. R. Cooper & Schindler, 2006).

In contrast, a quantitative method allows researchers to collect data from large sample size and statistically determine the extent to which a certain phenomenon is accurate and reliable. Hence, by using quantitative approach, researchers can examine the significance among and between research variables and are able to generalize the results to the whole population (Zikmund, 2003). After reviewing the qualitative and quantitative research methods, the quantitative approach was found to be more suitable for the purpose of this study, as it allows the researcher to compare

the results of the current study with several previous studies (e.g., Chow et al., 1994; Chow et al., 1999; Harrison & McKinnon, 1999; Henri, 2006; Widener, 2007), as well as allowing the researcher to generalize the results to the entire population (Sekaran & Bougie, 2010; Zikmund, 2003).

Furthermore, Sekaran and Bougie (2010) and Emory and Cooper (1990) noted that the research should be designed according to the type of information desired, the purpose of the study, resource availability, type of investigation, study setting, research objectives, the extent of researcher interference, the unit of analysis and time horizon. Because the key aim of this study is to empirically test certain hypotheses to examine the relationships between the research variables includes in this study, the nature of this study is a correlation study. According to Sekaran and Bougie (2010) former correlational studies are typically conducted for two purposes: 1) to examine and explain the variance of the dependent variables and 2) to understand the relationship between two or more variables in a certain situation.

Additionally, a correlation study is cross-sectional study, wherein the desired data are gathered just once to measure all the variables simultaneously (Sekaran & Bougie, 2010; Wong, 2002). By contrast, a longitudinal study that allows researchers to involve small numbers of respondents over a longer period of time, which limits the possibility of generalizing the findings, whereas the cross-sectional method allows larger sample size to involved within a certain time frame (Sekaran, 2003).

Survey questionnaires are designed and distributed as such an instrument allowing the researcher to collect primary data from a large sample size (Sekaran, 2003). A

questionnaire instrument is based on thorough studies, and research has the ability to measure the behaviour, beliefs, and attitudes of respondents through statistical analysis, which assists in assuring the reliability of the findings (Cavana, Delahaye, & Sekaran, 2001).

In this context, the survey questionnaire for this study has been designed using an interval scale method. In particular, a 5-point Likert-type scale was adopted to design the survey questionnaires because such scale allows the researcher to perform certain arithmetical operations on the data collected from the respondents (Sekaran, 2003). Figure 4.1 in the next page illustrates the research design of the current study.

4.3 Unit of Analysis

According to the nature of this study, which is to examine the hypothesized relationships on the firm level, the unit of analysis of the current study is the Palestinian listed firms represented by the top management who work in certain top management positions. Top managers can give accurate information, reflective of real situations of the company, in particular regarding the research variables to test the hypothesized relationships. Therefore, for the current study, the assumption was that the Chief Executive Officer (CEO), and Chief Financial Officer (CFO) had specific knowledge of MCS and its antecedent factors, organizational learning and firm performance, or knowledge processes within the organization.

4.4 Population of the Study

The population of this study as mentioned in chapter one is the Palestine firms listed on the Palestinian Stock Exchange (here after called PSE). The PSE is in its infancy when compared with well-established stock markets of the world. The PSE

was established in 1997 by the Palestinian National Authority after the Oslo accord in 1993 (Abushammala, 2014; Daraghma & Alsinawi, 2010). However, while most previous studies have explored the manufacturing industry (e.g., Abdel-Kader & Luther, 2008; Baines & Langfield-Smith, 2003; Chenhall & Morris, 1986; Hoque, 2004; Widener, 2007), this current study is multi-industry, which might contribute to previously unavailable multi-industry insights that would enhance knowledge.

In 2015, 49 firms were listed on the PSE (PSE, 2015). Most of these firms can be characterized as family-owned with family members holding the key management positions (Abdelkarim & Alawneh, 2009; Awad & Daraghma, 2009). An analysis of the current 49 listed firms sector shows that there are five predominant sectors on the PSE. They are: 1) banking, 2) insurance, 3) investment, 4) services and 5) industrial sectors (Abu-Libdeh & Harasheh, 2011; Alkhatib & Harasheh, 2014). The distribution of those listed firms is further illustrated in Table 4.1

Table 4.1
The Distribution of Palestinian Listed Firms

Investment	Number of companies	Percentage
Services	9	18.4 %
Banking and financial services	12	24.5 %
Insurance	9	18.4 %
Industrial	7	14.2 %
Investment	12	24.5 %
Total	49	100%

Palestinian listed firms have been noted for exhibiting an uneven performance. Some firms are able to generate profits while facing all the obstacles in the uncertain Palestinian environment, while some others have had capital losses for more than

five years and continue to operate with the hope of generating profits in the future. Some face declining stock prices; meanwhile some work on recovery in an out-of-control environment. This variation in operating and profit generation is at company level and cannot be witnessed in the industries (See Appendix 1).

The reasons to choose Palestinian listed firms as the population of this study were several. First, they have had financial performance problems as 30% of these companies have faced losses in the last five years and another 10% have continues losses without any chance to stop their losses or even to reach break-even point in the last five years, namely, from 2010-2014 (See Appendix 1 or refer to section 1.3, problem statement, for further information). Second, they cover the all available industries and geographical regions in Palestine. Third, they have publicly available financial data. This is an issues for as Dik (2011) stated that "business and economic information on companies is difficult to obtain in most Arab companies, only if they are listed in the stock exchange market or forced by governmental or regulatory institutions to submit their financial or business data" (p. 99). Finally, listed firms in general represent the formal procedure of management accounting and control practices, which implies that listed firms follow predetermined rules, procedures, and policies due to restrictions imposed on their behaviour through boards of directors and the stock market.

4.5 Sampling Frame and Sample Size

Sampling and the decision about which of the 49 Palestinian listed firms to include in the sample size is crucial for business research (Maxwell, 2005). To that end, and as the population of this study is small, Zikmund (2003) noted that, when the sample units in the population are limited, the researcher may select to study the whole

population rather than taking a sample for the study. Nevertheless, the determinants factor for selecting from those 49 listed firms is that firm must have been operation for at least the past five years to ensure that the firm has the appropriate experience, especially with its external environment and its MCS. As per this condition, the all of 49 Palestinian listed firms comprises a valid sample and have been included in the sample for the purposes of this study.

4.6 Variable Measurements

This section presents the measurements of the research variables based on the operational definitions of each variable. Hence, five main groups of measurements are discussed in this section including MCS, organizational learning, organizational performance, PEU, and national culture.

4.6.1 Management Control Systems

This study is based on levers of control, which is dependent upon the extent to which firms emphasize the use of beliefs, boundary, diagnostic and interactive control system. Beliefs control system has been defined previously as to the extent to which they can inspire the workforce to take the desired action (Simons, 1995). Based on this operational definition, Widener (2007) measured beliefs system by using four items, and she reported that the Cronbach's alphas of these items were 0.91 and the factor loading ranged from 0.844 to 0.921. Due to strong values of Cronbach's alpha and factor loading, these items have been adopted for the purpose of measuring beliefs system. Respondents was kindly asked to choose their preference on a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree).

A boundary control system is also used to set the appropriate limits on organization's members. In the study, Widener (2007) measured the diagnostic control system by using four questions to measure the extent to which the organization relies on code of business conduct, communication systems and restricted areas / actions. She reported the Cronbach's alphas for the study to be 0.91 and an explanation of variance of 78%. Respondents in this current study were asked to indicate their preference on a 5-point Likert-type scale (1= strongly disagree to 5 = strongly agree).

A diagnostic control system that provides information about routine measurements and goal achievement "progress towards goals" will be measured through several items that evaluate the extent to which Palestinian listed firms use performance measurement system (PMS) to control their activities. Several items and scales are available to measure this factor from a number of studies conducted including Simons (2000), Kaplan and Norton (1996), Henri (2006), and Widener (2007). Henri (2006) reported that an Cronbach's alpha of 0.79, which exceeded the common cut-off level of 0.70. Thus, Henri's (2006) items have been adopted for the purpose of measuring the diagnostic system. Respondents were asked to indicate their preference on a 5-point Likert-type scale (1 = Not at all, 2 = Low extent, 3 = Moderate extent, 4 = Large extent, and 5 = Very large extent).

An interactive control system that requires the involvement of top management to use MCS interactively was measured by using PM to be consistent with previous studies (Henri, 2006; Ittner & Larcker, 1998; Widener, 2007). Seven items were adopted from Henri's (2006) previous research. He reported that the Cronbach's alphas of these instruments was 0.87, which exceeded the common cut-off level of

0.70. Participating managers were asked to select their preference from a 5-point Likert-type scale (1 = Not at all, 2 = Low extent, 3 = Moderate extent, 4 = Large extent, and 5 = Very large extent). Table 4.2 presents the source(s) and the measurements for items related to beliefs, boundary, diagnostic, and interactive control used in this current study.

Table 4.2
The Measurements of Beliefs, Boundary, Diagnostic and Interactive System

Item	Source
Beliefs Control System	
1. Our mission statement clearly communicates the firm's core values to our workforce.	Widener (2007)
2. Top managers communicate core value to our workforce.	
3. Our workforce is aware of the firm's core values.	
4. Our mission statement inspires our workforce.	
Boundary Control System	
1. Our firm relies on a code of business conduct to define appropriate behaviour for our workforce.	Widener (2007)
2. Our code of business conduct informs our workforce about behaviours that are off-limits.	
3. Our firm has a system that communicates to our workforce the risks that should be avoided.	
4. Our workforce is aware of the firm's code of business conduct.	
Diagnostic Control	
1. Track progress toward goals.	Henri (2006)
2. Monitor results.	
3. Compare outcome to expectations	
4. Review key measures	

Table 4.2 (Continued)

	Item	Source
	Interactive Control System	
1.	Enable discussion in meeting of superiors, subordinates and peers	
2.	Enable continual challenge and debate of underlying data, assumption, and action plan.	
3.	Provide a common view of the organization.	Henri
4.	Tie the organization together.	(2006)
5.	Enable the organization to focus on critical success factors.	
6.	Develop a common vocabulary in the organization.	
7.	Enable the organization to focus on common issues.	

4.6.2 Organizational Learning

Previous literature has established that organizations must cultivate a suitable culture in which to enable and stimulate learning (Galer & Van Der Heijden, 1992). Hence, previous studies have focused on the extent organization to which can adapt itself to learn and the view on learning to measure organizational learning. Various studies including those of Hult and Tomas (1998) and Henri (2006) have validated a scale for the measurement of learning. This Widener (2007) also used this instrument and reported the Cronbach's alpha at .79, which exceeded the cut-off of .70, while the factor loading ranged from .843 to .920.

Therefore, the current study adopted Widener's (2007) organizational learning measurements. Respondents was asked to select their preference on a 5-point Likert-type scale with reference to organizational learning (1 = strongly disagree to 5 = strongly agree). Table 4.3 shows items that have been used to measure organizational learning.

Table 4.3
Measurements of Organizational Learning

Item	Source
1. Learning is the key to improvement.	Widener (2007)
2. Basic values include learning as a key to improvement.	
3. Once we quit learning we endanger our future.	
4. Learning is viewed as an investment, not an expense.	

4.6.3 Organizational Performance

Organizational performance, as the ultimate ambition in this research framework, comprises two parts that include financial performance and non-financial performance. Seven items were used in this study to measure both financial and non-financial performance and were adopted from instruments used in previous research (e.g., Cadez & Guilding, 2007; Hoque & James, 2000; Ojra, 2014; Widener, 2007). The first two questions about organization's financial performance cover overall profitability and return on investment. Ojra (2014) tested the financial performance items in Palestine, and he reported that the Cronbach's alpha for organizational performance was 0.87.

The second part of performance measurement was with non-financial performance including customer satisfaction, product / service quality, development of new products, developing employee competencies and skills and finally, employee satisfaction. Ogra (2014) tested items 3 to 5 in Table 4.4 below in Palestinian companies, and he reported a satisfactory Cronbach's alpha value of 0.92. This instrument was adopted directly as it is valid for services and industrial firms as well as for a cross-sectional study.

Item six in Table 4.4 was adopted from Guan, Hansen, and Mowen (2009) to cover the perceptions of top management about enhancing employees competencies and skills. Item 7 was adopted from Atkinson, Kaplan, and Matsumura (2012) to measure employee satisfaction. Thus, the items covers the entire BSC dimension to measure the financial and nonfinancial performance of Palestinian listed firms.

Palestinian managers have been kindly asked to select their preference for organizational performance regarding to their competitors on a 5-point Likert-type scale (1 = very poor performance, 2 = poor performance, 3 = barely acceptable, 4 = good performance and 5 = very good performance). Table 4.4 shows the items for both financial and non-financial performance.

Table 4.4
Measurements of Organizational Performance (Financial & Non-financial Performance)

No.	Item	Source
1.	Overall organizational profitability.	Widener (2007)
2.	Return on Investment.	
3.	Customer satisfaction.	Ojra (2014)
4.	Product/ services quality.	
5.	Development of new products / services.	
6.	Developing employee competencies and skills.	Guan et al., (2009)
7.	Employee satisfaction.	Atkinson et al., (2009)

4.6.4 Perceived Environmental Uncertainty

PEU has been measured several times in previous research (Chenhall & Morris, 1986; Haldma & Lääts, 2002; Hammad et al., 2013; Hoque, 2004, 2005). Nevertheless, instruments to measure PEU originating from political uncertainty are

generally unavailable as most previous research has focused upon uncertainty in the business environment.

However, Kattan et al. (2007) described environments as turbulent when they exhibited high levels of instability and volatility. Khandwalla (1977) developed instruments to measure a turbulent environment, which was adapted in this current study for the purpose of measuring political uncertainty. Furthermore, in the process of examining the content validity of the study measurements in a pilot study for this current research, Palestinian practitioners and managers suggested to add another item to the political uncertainty. This new item concerns the influence of political instability on implementing intended strategies and plans (item number 4 in Table 4.5).

Respondents were asked to record their selection based on a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree). Table 4.5 presents the measurements of Khandwalla (1977) as well as the adaptations made for each item. Additionally, item that Palestinian managers suggested is also presented.

Table 4.5
Measurements of the Political Uncertainty

Original items	Adapted items
1. Our external environment is very safe; little threat to survival and well-being of the firm.	Our environment is very safe and there is little threat to our survival and growth.
2. Our external environment is unpredictable; very hard to anticipate the nature of direction of change in the environment.	Our environment is unpredictable and hard to anticipate the political changes.

Table 4.5 (Continued)

Original items	Adapted items
3. Our external environment is very predictable; very easy to forecast the future state of affairs in the environment.	Our external environment is very predictable; very easy to forecast the future state of the political environment.
4. Our company faces difficulties in implementing its strategies and plans due to the Political instability.	Suggested by the Palestinian managers.

The second dimension of external uncertainty (competitive uncertainty) was measured using the previous instruments of Widener, (2007). Widener, (2007) reported the validity and the reliability of these measurements. The factor loading ranged from 0.625 to 0.920, the Cronbach's alpha was 0.75 and the average variance extracted AVE was 66%. Hence, because those measurements were tested and the reliability and the validity were confirmed, this study current adopts items for the purpose of measuring the competitive uncertainty in Palestine. Respondents were asked to choose their preference from a 5-point Likert-type scale (1 = Not at all, 2 = Low extent, 3 = Moderate extent, 4 = Large extent, and 5 = Very large extent). Table 4.6 illustrates the measurements of competitive uncertainty.

Table 4.6
Measurements of Competitive Uncertainty

No.	Item	Source
1.	Product introductions in adjacent industries.	
2.	Market tactics of competitors.	Widener, (2007)
3.	New industry entrants.	

Widener, (2007) also previously measured uncertainties originating from the internal business environment, namely, operational uncertainties, and she reported that the

Cronbach's alphas for those measurements were 0.78, whereas the average variance extracted AVE was found to be 54%. The factor loading ranged from 0.577 to 0.945. Accordingly, as the measurements was used previously and their reliability and validity demonstrated, the current study adopted them in order to measure the operational uncertainties in the Palestinian environment.

However, in the process of examining the content validity of the study measurements in the pilot study, the Palestinian practitioners and managers suggested adding another item to the technological and operational uncertainty. The new operational uncertainty item concerned the uncertainty faced by Palestinian companies in the process of increasing productive capacity due to the political obstacles imposed by Israeli occupation.

According to the Palestinian managers, increasing productive capacity in Palestine is difficult in most cases. The unavailability of raw materials or/and the political challenges hinder Palestinian companies in precisely implementing their work schedule. Therefore, MCS designers should account for the difficulties of increasing productive capacity, which Palestinian managers suggested should be included in measuring operational uncertainty. Participated managers were kindly asked to choose their preference from a 5-point Likert-type scale (1 = Not at all, 2 = Low extent, 3 = Moderate extent, 4 = Large extent, and 5 = Very large extent). Table 4.7 exhibits the operational uncertainty measurements.

Table 4.7
Measurements of Operational Uncertainty

No.	Item	Source
1.	Diffusion of property knowledge outside the organization.	Widener, (2007)
2.	Scale effects (Product depth).	
3.	Scope effect (product breadth).	
4.	Input costs.	
5.	Internal product enhancement.	
6.	Increasing productive capacity.	Suggested by Palestinian managers

Widener (2007) also measured uncertainties that originating from the technological uncertainties, and she reported that the Cronbach's alphas for those measurements was 0.92, whereas the average variance extracted AVE was found to be 93%. The factor loading ranged from 0.951 to 0.959. However, in the process of examining the content validity of the study measurements in the pilot study for this current study, Palestinian practitioners and managers also suggested adding another item to technological uncertainty.

The new item for technological uncertainty concerns measuring the technology of competitors. Palestinian practitioners justified the need to measure competitor technology as this kind of uncertainty can give a competitive advantage to a competitor who adopts new technology first. In fact, the more the competitors adopt new technology the more a company faces the pressure of technological uncertainty. Thus, competitor technology should be seriously monitored as its represents an important source of uncertainty brought to the market due to rapid technological changes in the production and/or service delivery process. Participated managers were asked to choose their preference from a 5-point Likert-type scale (1 = Not at all,

2 = Low extent, 3 = Moderate extent, 4 = Large extent, and 5 = Very large extent). Table 4.8 illustrates technological uncertainty measurements.

Table 4.8
Measurements of the Technological Uncertainty

No.	Item	Source
1.	Change in product technology that affect the relative cost/ efficiency to user.	Widener, (2007)
2.	New technology.	
3.	Competitors technology.	Suggested by Palestinian managers'

4.6.5 National Culture

National culture dimensions that will be used in this study (power distance, uncertainty avoidance, and collectivism), have been measured previously by Hofstede (1980) to classify countries according to their cultural dimensions. Consequently, not all Hofstede's measurements are relevant for the purpose of this study as it works to classify societies according to these dimensions (Hofstede & Hofstede, 2001).

For example, Hofstede designed the power distance scale to compare the extent to which societies have more or less power distance whereas, the aim of this study is to measure the impact of a high-power distance culture on MCS practices. However, Previous literature has shown that two methods exist to measure the impact of national culture dimensions on management and control practices.

The first method is to conduct cross-cultural research in two or more countries in order to compare the similarities and the differences in MCS design among those

countries based on Hofstede's dimensions' scale. Accordingly, researchers using this method have evaluated MCS practices in two different cultures individually and attributed the differences in MCS practices to their national culture differences (e.g., Chow et al., 1991; Harrison & McKinnon, 1999; Merchant et al., 1995; Ueno & Sekaran, 1992; Daley et al., 1985).

The second method found in the literature is single country research or "non-comparative studies", which implies that the study is conducted to measure the impact of those dimensions in a single country (for example, Palestine) in order to establish the extent to which national culture attributes affect management and control practices (Robertson, Al-Khatib, & Al-Habib, 2002). For example, Arab countries are ranked as high-power distance cultures, and the researcher wants to measure the influence of such cultural dimension on MCS design.

In the case of this current study, no need exists to measure power distance again. Instead, the need exists to develop, adapt and/or adopt instruments that have the ability to measure the influence of national culture on MCS design. Because this research is not a cross-cultural study, the second method was followed. Hence, instruments developed and established by previous researchers who measured the impact of Hofstede's cultural dimensions on management and control practices and Hofstede's instruments themselves have been be adapted for this study. Therefore, 12 items to measure the influence of the cultural dimensions on MCS design have been applied. These 12 items were used to determine the impact of high power distance, high uncertainty avoidance and collectivist culture on MCS design.

The power distance dimension in this current has three questions. The first one is adapted from the VSM 94 [3] of Hofstede and Hofstede (2001), while the remaining three questions were adapted from Al-Hersh (2008). Respondents were asked to rate their answers on a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree) to highlight the extent to which power distance influence MCS design.

Uncertainty avoidance has four items; the first items are adapted from the VSM 94 of Hofstede and Hofstede (2001) whereas, the rest four items were adapted from Al-Hersh (2008). Respondents were asked to indicate their response on a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree) to highlight the extent of uncertainty avoidance prevalent in the organization.

Finally, the collectivism dimension had three items. The first one was adapted from VSM 94 of Hofstede and Hofstede (2001) whereas, item two and three were adapted from Al-Hersh (2008). The respondents were asked to indicate their response on a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree) to highlight the extent to which their organization preferred group work. Table 4.9 presents the items for power distance, uncertainty avoidance and collectivist culture.

[3] Hofstede's Value Survey Module 1994 (VSM94).

Table 4.9
The Measurements of Power Distance, Uncertainty Avoidance and Collectivist culture

No.	Item	Source
Power Distance		
1.	Subordinates are frequently afraid to express disagreement with superiors.	Hofstede and Hofstede (2001)
2.	Top management usually controls most of organization activities and did not delegate controlling power to for others.	Al-Hersh (2008)
3.	There is are considerable distance between top managers and middle managers.	
Collectivist culture		
1.	Our company prefers to communicate its results with its members.	Hofstede and Hofstede (2001)
2.	Organization managers prefer to work individually rather than to work in -groups.	Al-Hersh (2008)
3.	Our company prefers group decision making.	
Uncertainty Avoidance		
1.	A company or organization's rules should not be broken.	Hofstede and Hofstede (2001)
2.	Our company has specific rules, procedures, and work laws.	
3.	Our company extremely implements its rules, procedures, and work laws.	Al-Hersh (2008)
4.	Our company is intolerant of deviant persons or risky ideas	

4.7 Questionnaire Design

The survey questionnaire was designed in both the Arabic and English languages. The questionnaire was translated to the Arabic language using the back-to-back method in order to ensure that no changes in meaning happened. First, the questionnaire was written in English and then was translated into Arabic by the assistant of lecturers and business persons. It was expected that the instrument would

be easier for the respondents to understand if the questionnaires were posed in the Arabic language and this would motivate them to respond to the survey. The translated Arabic version was sent to two other business persons to ensure that the language was easily understandable. A few mistakes were corrected and modified and then the questionnaire was sent to an expert in Arabic and English languages to translate the Arabic version back to English. The final version was compared to the original version for final adjustments to ensure the clarity of the language.

The main instrument was divided into 6 sections with a total of 56 items (excluding respondents' profiles). A cover letter was attached to each questionnaire to explain the aims of this study, the confidentiality of data and instructions about how to return the questionnaire. In addition, all sections of the questionnaire carried instructions to assist the respondents in better understanding the purpose of each section (See Appendix 2).

Section One comprised questions about the organization's industry, the number of employees, year of establishment, the position of respondent and information about the organization and the respondents. Sections Two and Three were designed to measure the impact of PEU and national culture on MCS design, whereas section Four asked respondents about MCS. Section Five posed questions about organizational learning. Finally, Section Six assessed organizational performance as the ultimate aim of this research. Table 4.10 provides a summary of the survey questionnaire contents, Appendix Two shows the English version while Appendix Three shows the Arabic version of the actual questionnaire distributed to the Palestinian listed firms.

Table 4.10
Summary of Survey Questionnaire Contents

Section	Description
Section One	This section comprised 10 questions about the organization and respondents.
Section Two	This section comprised 16 questions about PEU.
Section Three	This section comprised 10 questions about national culture dimensions.
Section Four	This section comprised 19 questions about MCS dimensions.
Section Five	This section comprised 4 questions about organizational learning.
Section Six	This section comprised 7 questions about organizational performance.

4.8 Pilot Study

This section discusses how the current study tested measurement validity and the reliability before collecting the actual data. To that end, the researcher examined the content validity and the reliability, which will be discussed in the next two sub-section respectively.

4.8.1 Content Validity

After preparing the measurements and before collecting the real data for the purpose of testing research hypotheses, testing the content validity of the questionnaire is very important in order to ensure that the instrument will measure exactly what is supposed to measure and not something else (Sekaran, & Bougie, 2010). For that reason, the researcher conducted a pre-test with two groups of experts. The first group comprised two academicians, while the second group comprised three professionals working in business companies.

The academicians concentrated more on the meaning of each question and evaluated the instrument to ensure that each item: 1) has the ability to measure what supposed to measure, 2) that no overlap or repeat questions exist within the same construct

measurements as well as no overlap or repeat questions with respect to other constructs, and 3) that there are no leading questions. The feedback from the academicians suggested that, with some adjustments, the proposed questionnaire was valid and understandable.

The second group, which comprised three professionals working in Palestinian companies, concentrated more on the ability of the instrument to be clear enough for the real respondents and the ability of each item to measure the construct. After this review, they suggested adding another three items. The first item concerned political uncertainty to measure the attention given to the influence of political uncertainty on implementing the intended strategies and plans (Item 4 in the political uncertainty measurements) as was discussed in Section 4.6.4. The second suggested indicator concerned operational uncertainty, which was to measure the attention of the top management in increasing production capacity (Item 6 in the operational uncertainty measurements) as was discussed previously in Section 4.6.4. The third item concerned technological uncertainty in terms of measuring competitor technology (Item 3 in the technological uncertainty measurements) as was also discussed previously in Section 4.6.4.

Additionally, Palestinian professionals as well as the academicians suggested rephrasing the measurements of national culture dimensions to eliminate possible sources of confusion and enhance the understandability of those measurements. In conclusion, the feedback have given by both groups of experts enabled the researcher to make several modifications to eliminate confusion and to make the instrument

more understandable by rephrasing and rearrangement of some important questions to enhance the general flow as well as the sequencing of the proposed questionnaire.

4.8.2 Statistical Reliability of The Measurements (Pilot Study)

After the preliminary check of content validity of the instrument and necessary modifications had taken place, the researcher conducted a pilot study, which is an experimental study to enhance a particular research instrumentation (Zikmund, 2003). In fact, the aims of the pilot study are to measure the reliability of the instruments as well as to test its validity before distributing the final one. Therefore, 42 managers from different industries were randomly selected and kindly asked to response to the survey.

The researcher distributed the questionnaires in five different industries (i.e., banking, insurance, manufacturing, service and investment), with the intention of simulating the original population, namely, the Palestinian listed firms distributed into these five industries. Three weeks after distributing the pilot study surveys, the researcher had collected 34 questionnaires. Three of them were dropped from analysis due to large amount of missing data, which resulted in 31 valid questionnaires for the purpose of the pilot study. According to Cooper and Schindler (2003), a sample size ranging from 25 to 100 is acceptable for the purpose of a pilot study used to check the reliability of the instrument.

Hair et al. (2010) described reliability as the assessment of the internal consistency level among multiple measurements of construct. In fact, a reliable instrument means that the instrument will produce same results if it used repetitively. Therefore,

reliability analysis of the instrument is conducted in order to determine the internal consistency of the items that are used to measure the construct.

Sekaran (2003) mentioned that researchers used different methods to measure construct reliability. One of the most common methods, especially in social science, is the Cronbach's alpha coefficient method. Thus, this research used the Cronbach's alpha method to evaluate the internal consistency of the instrument.

Using the Statistical Package for Social Science (SPSS) Version 22, the researcher tested instrument reliability. The results show that the reliability standard ranged from 0.710 to 0.935, except the collectivism dimension that belonged to national culture variable that had a Cronbach's of 0.698, which is considered reliable (Hair et al., 2006) because the result is almost 0.70. However, previous research literature documented that coefficient alpha equal to 0.70 and above is acceptable (Nunnally & Bernstein, 1994). Table 4.11 illustrates all items and their levels of internal consistency.

Table 4.11
Reliability Analysis of the Pilot Study

Construct	Dimension	No. Items	Cronbach's alpha
MCS	Beliefs System	4	0.869
	Boundary System	4	0.914
	Diagnostic System	4	0.924
	Interactive System	7	0.935
PEU	Political Uncertainty	4	0.789
	Competition Uncertainty	3	0.749
	Operational Uncertainty	6	0.844
	Technological Uncertainty	3	0.880

Table 4.11 (Continued)

Construct	Dimension	No. Items	Cronbach's alpha
National Culture	Uncertainty Avoidance	4	0.803
	Power Distance	3	0.710
	Collectivism	3	0.698
Organizational learning	-	4	0.799
Organizational performance	-	7	0.862

From the above table, results indicate that the level of Cronbach's alpha was either equal to or above the established benchmark of 0.70. Consequently, all the constructs were reliable (Hair et al., 2010; Nunnally & Bernstein, 1994).

4.9 Data Collection

Data were collected by distributing survey questionnaires to the top management of the Palestinian listed firms. This data collection procedure has been used previously by many researchers (e.g., Bedford, Malmi, & Sandelin, 2016; Harrison & McKinnon, 1999; Henri, 2006; Hoque, 2005; Jamil & Mohamed, 2013; King & Clarkson, 2015; Merchant et al., 1995; Spekle, Van Elten, & Widener, 2015; Widener, 2007). The reason to target these managers was that they have the power to design and implement MCS and monitor organizational activities, which is consistent with the requirements of this study.

According to Baines and Langfield-Smith (2003), top managers perceptions for a study of this nature considered appropriate, because 1) top managers have sufficient understanding of their decision process and can give relatively reliable information, 2) it is difficult to objectively measure variables such as the extent of change in the

environment, or change in strategic emphasis, and 3) it is managers' perception of the environment which are of interest, as it is these perceptions that influence decisions with respect to strategic choices and changes in other organizational and management accounting variables. Taking these backgrounds into consideration, the CEOs and CFOs of the Palestinian listed firms were chosen as respondents of the current study.

Data were collected by using mailed questionnaire as well as distributed and collected survey questionnaire personally. The sample of this study includes 49 Palestinian listed firms distributed into five industries. Questionnaires were distributed and collected from each industry are displayed in Table 4.12.

Table 4.12
Number and Percentage of Distributed and Collected Questionnaires to Each Industry

Industry	Number of Companies	Distributed Questionnaires	Percentage (%)	Collected Questionnaires	Percentage (%)
Manufacturing	12	24	24.5%	22	27%
Banking	9	18	18.4%	12	15%
Insurance	7	14	14.2%	13	16%
Services	12	24	24.5%	21	26%
Investment	9	18	18.4%	14	17%
Total number of distributed and collected questionnaires		98	100%	82	100%

In this study, data collection process started in August 2015 and lasted until October 2015. In order to enhance the response rate for the current study, the researcher had taken several steps includes: First, survey questionnaires were emailed or personally delivered along with a cover letter that introduce the purpose of this study. Second, the respondents were assured that all information provided by survey questionnaires

will be highly confidential. After two weeks of distributing the surveys, the researcher personally visited and/or calls the companies reminding them of the importance of their participation.

A total of 39 questionnaires were returned. Later on, a reminder email was sent to the firms that had not yet returned the questionnaires. This procedure led to 32 additional responses. To further encourage some companies to participate, the researcher visited a number of companies explaining to them the significance of their response to this study. Based upon this visit, additional 11 questionnaires were collected. Overall, 82 questionnaires were returned from the participated companies.

4.10 Data Analysis

With the aim of achieving reliability in analysing the collected data, different statistical softwares have been applied to perform data analysis represented by SPSS version 22.0 and Structural Equation Model (SEM), specifically Partial Least Square (PLS-SEM), precisely SmartPLS version 2. Hence, the current study used a mixture of both inferential and descriptive statistics method. Inferential method was applied to test the research hypotheses of the conceptual model by using SmartPLS Version 2 whereas, descriptive statistics was conducted to summarize the sample characteristics of the collected data by Statistical Package for the Social Sciences (SPSS) Version 22.0.

Particular to the research model of this study is the specific examination of the mediating relationship as well as the examination of the whole research model simultaneously, which contains first and second order constructs, using SEM

techniques that were found to be more reliable to test the proposed study model. SEM is a second generation analysis technique that usually is applied to overcome the potential limitations and analytical complications in measuring a study model that contains first and second order and mediation relationships, as in the case of this study (Haenlein & Kaplan, 2004). Furthermore, SEM is considered to be one of the most powerful statistical techniques in social research because SEM can examine several relationships simultaneously (Hair et al., 2010). Moreover, data normality is not fundamentally an issue as Osborne (2010) pointed out.

Nevertheless, researchers who wish to apply SEM must consider two different types of the method: First is the covariance-based approach (CB-SEM) that can be made up of several different techniques that can be applied to do this type of analysis such as Analysis of a Moment Structures (AMOS), Linear Structural Relations (LISREL) program (Haenlein & Kaplan, 2004). Second is the variance-based approach of the Partial Least Squares (PLS-SEM) (Haenlein & Kaplan, 2004; Hair, Ringle, & Sarstedt, 2011).

Despite the fact that both PLS-SEM and CB-SEM share the same background and roots, previous researchers have primarily focused on CB-SEM (Hair, Sarstedt, Ringle, & Mena, 2012a). By contrast, the application of PLS-SEM has been expanded in social sciences in the fields of business and marketing due to the recognition of its distinctive methodological features, which improved its ability to be a strong and reliable alternative to the more popular CB-SEM approach (Henseler, Ringle, & Sinkovics, 2009). According to Hair et al. (2011), the main objective of PLS-SEM is to maximize the explained variance in the dependent variable as well as

to assess the quality of collected data by examining the measurements of model characteristics, which is similar to the approach of multiple regression analysis.

However, for the purpose of selecting the most appropriate and powerful method for this study it is prerequisite to review the requirements and the features of the both available methods. In this context, CB-SEM has many fundamental criteria that must be well thought-out such as non-convergence, model specification, data distribution, identification and sample size (Henseler & Sarstedt, 2013). Regarding the sensitivity of CB-SEM to sample size, Hair et al. (2010) recommended a sample size of at least 200 for CB-SEM to be selected as an analysis approach to provide a sound basis for estimation. Thus, a sample of 200 and more is required to obtain reliable and valid results by using CB-SEM that is not the case of the current study, which had a sample size of 82.

Kline (2011) noted that as the sample size-parameter ratio in CB-SEM decreases below 10:1, the current study would counter problems regarding the required reliability because some statistical calculations in this approach such as standard error may be inaccurate due to small sample size. Consequently, this study chose not to apply CB-SEM tools because the reliability of the findings could be questionable as the sample size was less than 200.

In contrast, several authors have acknowledged the advantage of the alternative approach of variance-based PLS-SEM because of its flexibility in tackling small sample size by providing an alternative solution to overcome this restraint (Hair et al., 2011; Hair, Sarstedt, Pieper, & Ringle, 2012b; Henseler et al., 2009). Hence, this

study adopted PLS-SEM because was more appropriate to perform the analysis and examining the measurement model as well as to test the hypothesized relationships. Therefore, SmartPLS Version 2, was used to assess the proposed research model of this study.

4.10.1 Partial Least Squares-Structural Equation Model (PLS-SEM)

A structural equation model (SEM) has two main components for the purpose of performing data analysis, the measurements model and the structural model. The measurements model is also known as the outer model (Henseler et al., 2009). This outer model includes unidirectional predictive association between each latent construct and its respective indicators. In the measurement model, any multiple relationships are not acceptable; thereby, the indicators of constructs have to be associated merely with a single latent construct. PLS-SEM has no problem handling both the reflective and/or formative measurements model (Hair et al., 2014).

Reflective items are considered to be functions of the latent variable, and as such, changes in the latent variable are reflected in changes in the indicators variables. Hence, headed arrows in the reflective indicators are pointing from the latent variable toward the indicators of that construct. The associated coefficient in such reflective PLS-SEM measurements are known as factor loading or precisely outer loading (Hair et al., 2014). On the other hand, formative indicators are the foundation of the latent construct, hence changes in the construct indicators can explain and determine changes in the value of the latent variable (Diamantopoulos, Riefler, & Roth, 2008; Diamantopoulos & Winklhofer, 2001). Unlike reflective indicators, headed arrows in the formative case are pointing from the indicators toward the latent construct; however, the associated coefficients are identified as outer weight in PLS-SEM. The

criteria to test the reliability and the validity of the measurement model are presented in the following sub-sections.

4.10.1.1 Criteria of assessing measurements model (Outer model)

Because the construct indictors of the measurements model in this study are reflective, the following criteria were used to evaluate reliability and validity (Hair et al., 2011; Henseler et al., 2009).

Convergent validity is the degree to which multiple items measure the same construct are in agreement. According to Hair et al. (2010), the criteria to asses convergent validity include:

1. Individual item reliability - factor loading;
2. Composite reliability (CR); and
3. Average variance extracted (AVE).

Discriminant validity is the degree to which the items differentiate among construct, or the correlations between the measures of potentially overlapping constructs. The criteria to examine discriminant validity include:

1. Cross loading; and
2. Latent variable correlation (square root of AVE).

Table 4.13 provides detailed information about the specific criteria to evaluate convergent validity and discriminant validity.

Table 4.13
Criteria for Assessing Measurement Model (Outer Model)

Convergent Validity	
Criteria	**Description**
Individual item reliability - factor loading;	Factor loading should be greater than 0.70 for each item.
Composite reliability (CR)	(CR) should be higher than 0.70 to materialize internal consistency between constructs' indicators.
Average Variance Extracted (AVE)	AVE should be greater than 0.50.
Discriminant Validity	
Criteria	**Description**
Cross loading	The value of the factor loading of each item to its respective construct should exceed the correlation with other constructs.
Latent variable correlation (square root of AVE).	The value of square root of AVE should be higher than the correlation between the factors off-diagonal elements in the rows and columns.

Source: Hair et al., 2014 and Henseler et al., 2009.

4.10.1.2 Criteria of assessing structural model (Inner model)

Once researchers have evaluated the reliability and validity of the measurement model they can proceed to estimate the structural model (also known as the inner model) in the context of PLS-SEM on the way to testing the hypothesized relationship (Henseler et al., 2009). The inner model illustrates the relationship between latent constructs of the study model. In this context, PLS-SEM allows only recursive relationships in the structural model, in different words, no casual loops. Hence, the structural path between latent constructs can merely head in a single direction. There are two types of constructs in this structural model, exogenous and endogenous latent constructs. An exogenous term represents the constructs that do not have structural path association pointing at them. An endogenous term represents

a latent construct explained by other construct(s) in the structural model (Hair et al., 2011). The fundamental criteria to examine structural model include:

1. Coefficient of determination (R^2) for the endogenous variables;
2. Effect size (f^2) of the exogenous variables;
3. Prediction relevance (Q^2);
4. Goodness of fit (GoF); and
5. Examining the path coefficient (using bootstrapping).

Table 4.14 illustrates the detailed criteria to evaluate Structural Model (Inner Model).

Table 4.14
Criteria for Evaluating Structural Model (Inner Model)

Criteria	Description
Coefficient of determination (R^2)	Chin (1998) suggested that values of R^2 above 0.67 are considered high, while values ranging from 0.33 to 0.67 are moderate, whereas values between 0.19 to 0.33 are weak and any R^2 values less than 0.19 are unacceptable.
Effect size (f^2)	Cohen's (1998) criteria to determine effect size (f^2) recommended that values of f^2 above 0.35 are considered large, values ranging from 0.15 to 0.35 are medium, values between 0.02 to 0.15 small effect size and lastly any values less than 0.02 are considering with no effect size.
Predictive relevance (Q^2)	According to the recommendation of Fornell and Cha (1994), value of cross-validity redundancy above zero ($Q^2 > 0$), indicates that there is a predictive relevance while a value of Q^2 less than zero means that the model lacks predictive ability.

Table 4.14 (Continued)

Criteria	Description
Goodness of fit (GoF)	Regarding the criteria of (Wetzels, Odekerken-Schröder, & Van Oppen, 2009), 0.1 means small GoF, 0.25 is considered medium and value greater than 0.36 indicates a large GoF.
Estimate path coefficient	The value of path coefficient should be estimated in term of magnitude, sign and significant (the later via bootstrapping), commonly used critical values for two tailed tests are 1.65 (significance level = 10%), 1.96 (significance level = 5%), and 2.57 (significance level = 1 %) (Hair et al., 2014).

Sources: Hair et al., (2014); Chin (1998); Cohen (1998); Fornell and Cha (1994); Wetzels et al., (2009).

4.11 Chapter Conclusion

This chapter discussed the research methods that have been used with the intention of fulfilling the purpose of this study. The chapter also discussed the research design, variables measurement, survey questionnaire design, population and sample, data collection and finally, analysis techniques that have been applied in the current study. The next chapter namely chapter five discuss data analysis and findings.

CHAPTER FIVE
DATA ANALYSIS AND FINDINGS

5.1 Introduction

This chapter introduces the analysis and the findings of the current study. It is divided into three main sections. The first one includes the participating companies and the profiles of respondents. The second section discusses the reliability and the validity of research measurements by using Confirmatory Factor Analysis (CFA). Finally, the third part presents the hypotheses testing for both direct relationships and the mediating relationship.

5.2 Analysis of Survey Response

This section contains two sub-sections. The first one will discuss the response rate of the distributed survey questionnaires whereas, the second section illustrate profile of respondents in term of participated companies and its respective respondents.

5.2.1 Response Rate

A total of 98 questionnaires were distributed to the CEOs and CFOs of the 49 Palestinian listed on the Palestine Stock Exchange (PSE). A total of 82 questionnaires were ultimately collected from 41 companies while the remaining 8 companies either did not respond or refused to participate. Three of the total respondents (82) failed to complete the questionnaires, citing reasons such as staffing constraints, contravening company rules, and a huge amount of missing data. According to Hair, Black, Babin, and Anderson (2010), it is better to exclude the respondent if the missing value greater than 50%. Consequently, a total of 79 completed questionnaires, which represented a response rate of 80.6% was used to perform data analysis. Table 5.1 illustrates the response rate.

Table 5.1
Response Rate

Number of questionnaires distributed	98
Number of questionnaires collected	82
Incomplete questionnaires	3
Useable questionnaires	79
Questionnaires response rate based on the useable questionnaires	80.6%
Number of questionnaires distributed	49
Number of questionnaires collected	41
Incomplete questionnaires	41/49 = 83.6%

A total of 79 useable questionnaires, yielding a response rate of 80.6 %, is a good response rate compared to past studies. For example, these included a response rate of 53% in Chow et al. (1999), 55% in Van der Stede, (2002), 12.5% in Widener, (2007), and 12.3% in Jusoh (2010). In addition, this response rate also good in the Palestinian context. For instance, Ojra, (2014) reported a response rate of 43.75% for Palestinian companies.

Moreover, this response rate (80.6%) is considered acceptable for studies that seek to examine the organizational level. Indeed, one obstacles of exploring the organizational level is the difficulty of reaching respondents who represent the organization (Maha, 2013). For that reason, and according to rule-of-thumb that Roscoe (1975) suggested, this sample size is acceptable. As this study took the whole population of the Palestinian listed firms (49 companies), the response of 41

companies that yielded rate of 83.6% from the total population is acceptable for performing the analysis.

5.2.2 Profile of the Respondents

This section concern about the description of the participated companies. As discussed previously, the population of this study is the Palestinian listed firms whereas, the respondents are the top managers represented by CEO and CFO. The characteristics examined included gender, age, work experience, work experience in the current position, Industry, and establishment year. Using SPSS version 22, the descriptive analysis carried out to describe the respondents' profile as illustrates in Table 5.2.

Table 5.2
Profile of Respondents

Item		Frequency	Percentage (%)
1.	**Gender**		
	Male	64	81%
	Female	15	19%
2.	**Age**		
	Less than 30 years	15	19%
	Between 31-45	44	56%
	Above 45 years	20	25%
3.	**Work experience**		
	Less than 5 years	15	18.6%
	Between 5-10	18	23.3%
	Between 11-15	15	19.4%
	Above 16 years	31	39%
4.	**Work experience in the current position**		
	Less than 5 years	43	54%
	Between 5-10	22	28%
	Between 11-15	7	9.5%
	Above 16 years	7	8.5%

Table 5.2 (Continued)

	Item	Frequency	Percentage (%)
5.	**Industry**		
	Manufacturing	21	27%
	Services	20	25%
	Insurance	13	16%
	Bank	12	15%
	Investment	13	16%
6.	**Establishment year**		
	Before 1994	15	37%
	Between 1994-1999	19	46%
	Between 2000-2005	0	0%
	2006 and above	7	17%

Table 5.2 shows that the majority of the respondents were male (81%) while the rest (19%) were female. Descriptive statistics also show that the majority of respondents age were between 31 to 45 years old (56%), following that were those above 46 years old (25%) while the lowest percentage goes to those who were less than 30 years old (19%). These results could describe the importance of work experience for having a top management position in the Palestinian listed firms.

Furthermore, the descriptive statistics for work experience revealed the age and work experience of those in high positions in the Palestinian listed firms. The analysis indicated that the majority of top management had at least 16 years of work experience with a percentage of 39%, whereas, the second highest percentage score was for those with work experience from 5-10 years (23.3%), and then to the managers from 11-15 years (19.4%). The lower percentage was for managers who have less than 5 years of experience with a percentage of 18.6 %.

With regard to the years of work experience in the current position as top management, the findings indicated that the majority of top managers had less than 5 years of experience in their current position with a percentage of 54%. The second

highest group (28%) was those who had experience of from 5-10 years in their current position. The third group (9.5%) were managers with more than 16 years of work experience in the current position, while the lowest percentage was for those who had experience in their current position from 10-15 years with a percentage of 8.5%.

The 41 participating companies in this study were distributed into five main industries (i.e., bank, insurance, manufacturing, service and investment industry). The largest one was the manufacturing industry with percentage of 35%. The second largest industry was the service sector representing 26 %, while the third industry was the insurance sector with percentage of 17%, following that the banking industry with a percentage of 16% and lastly, the smallest one was the investment industry representing 6% of the total participating listed firms.

The last descriptive statistic was the establishment year. The researcher divided the establishment year into four groups. The first one was the companies that established in the last 10 years, from 2006 and above, and the percentage was 17 %. The second group was companies established between 2000 and 2005. The results showed that the percentage was zero (0%), which reflects the impact of high political uncertainties on the economy during 2000 and 2005, which exhibited the highest political instability that Palestine has ever had.

The third group was the companies established between 1994 and 1999 after Oslo accord with a percentage of 46%, and were the highest percentage of the groups. This result once again expresses the essential role of political stability on such

market. The last group was companies established before 1994 and the percentage was 37%.

5.3 Averaging the Survey Respondents

The purpose of this study is to understand the influence of both, PEU and national culture on MCS design, and the outcomes of such relation on the organizational learning to enhancing the organizational performance. Consequently, organization is the unit of analysis as the target respondents are those whom representing the company and have top management position such CEO and CFO. Usually in the previous studies (Chenhall & Morris, 1986; Henri, 2006; Merchant et al., 1995; Van der Stede, 2002; Widener, 2007), researchers used to target one respondent (one manager) from each company as they have large sample size unlike the case of the current study that have just 49 listed firms.

Accordingly, the researcher target more than one manager from each Palestinian listed firm in order tackle the problem of small sample size. Meanwhile, and in order to make this study harmonious with the previous studies (e.g Chenhall & Morris, 1986; Efferin & Hopper, 2007; Harrison et al., 1994; Henri, 2006; Merchant et al., 1995; Van der Stede, 2002; Widener, 2007), the researcher calculated the mean (weighted average) of each set of survey questionnaires that belong to the same company to be one questionnaire (just one). For example, if the researcher collected 2 questionnaires from company "A", the answers of the question 1 for instance, will be calculated and divided by 2, which is the number of respondents to get the weighted average of that question and so on. However, Table 5.3 shows a real example from the collected data and how it was treated to calculate the weighted

average. Five-point Likert scale was used to collect the data (1 = strongly disagree, 2= dis agree, 3= neutral, 4= agree and 5= strongly agree).

Table 5.3
Example of Calculating the Mean of Two Managers from the Same Company

Company A	**PolitU-1**	**PolitU-2**	**PolitU-3**	**PolitU-4**
Manager 1 (CEO)	5	4	2	3
Manager 2 (CFO)	4	3	2	3
Weighted average	4.5	3.5	2	3

We can see from the above table, that the first question **PolitU-1** for example, was answered from the first manager to be 5 = strongly agree, whereas the answer of the second manager was 4 = agree, accordingly, after calculating the first and the second answer 5+4 the sum is 9. Divide this sum (9) to the total number of respondents from the same company (two managers in this case), the average of question PolitU-1 = **9/2** and that is 4.5, which represent the answer of company "A" for question PolitU-1**.**

Hence, after calculating the weighted average of each set of the questionnaires that belong to the same company, as illustrated in the above table and example, the total questionnaires to perform the analysis become 41, which equal to the participated companies in this study. This sample number is exceeding the collected sample of (Chenhall & Morris, 1986), whom collected 68 questioners form 36 Australian manufacturing companies for the purpose of examine the impact of PEU on MCS design, which is similar to the purpose of the current study. Furthermore, this sample number is also close to the number of collected sample that have been collected

previously by Chong (1996), who collected 42 survey questionnaires to study MCS design in the Australian firms.

In fact, calculating the mean for each set of the questionnaires that belonging to the same company reduce the variance between the answers of the managers and that gives the findings the appropriate reliability and validity to generalize the results.

5.4 Data Screening and Cleaning

This section highlight data screening and cleaning of the collected data. Four different analysis procedures and techniques were conducted to ensure that the collected data are suitable and clean before analyzing it by using PLS-SEM. However, this has been done by applying missing data, removing outlier, non-response bias test, and multicollinearity test. Therefore, the following section will discuss each test separately.

5.4.1 Treatment of Missing Data

Due to negative effect of missing values, data screening is necessary before performing an analysis because missing data will certainly influence the outcomes. Hence, collected data was examined fully because previous studies have established that missing values is a considerable issue due to its ability to negatively affect the findings of the empirical studies (Cavana et al., 2001). Thirteen collected survey questionnaires had missing data (15.85% of the collected questionnaires). Treating these missing data before performing the analysis was very crucial due to the sensitivity of Smart PLS regarding missing data. Thus, it was carefully checked and treated.

The general treatment of such missing data is usually done through SPSS by replacing any missing data with the mean or the median of nearby points, or via liner interpolation. Consequently, in the current study, the thirteen respondents that were found to have missing data were replaced by the median of nearby values Hair et al. (2010) and Tabachnick and Fidell (2007) suggested.

5.4.2 Removing Outliers

In quantitative studies, checking to see if any outliers exist in the collected samples is necessary. According to Byrne (2010), outliers are any observation that numerically have distance with comparison to the rest of dataset. Previous literature shows that many different methods of discovering outliers exist for a given research, among which includes categorizing data points based on an observed (Mahalanobis) distance from the research's expected data (Hair, Black, Babin, Anderson, & Tatham, 2006).

In the current study, a table of chi-square statistics was applied to determine the outliers. The optimal value to detect the outliers for the current study was determined to be 32.909 at a level 0.001 as it was related to 12 independent variables that used in this study. Outliers can be simply computed by performing a simple liner regression by selecting the newly created response number as the dependent variable and then selecting all the measurement items as the independent variables. However, it should be noted here that the demographic variables were excluded from this liner regression analysis.

Hair et al. (2010), suggested establishing a new variable in t SPSS to be called "response" to represent the beginning to the end of all variables. In the current study

the new output was called MAH for the purpose of comparing the chi-square as specified in the table and the new output of Mahalanobis. Based on the output of MAH, the values ranged from 1.096 to 33.68, which imply one survey questioner (survey number one with MAH=33.68) was found to be outlier because it exceed the predetermined value of MAH (32.909) as discussed earlier. Table 5.4 illustrates the findings of MAH for each collected survey questionnaire.

Table 5.4
Outliers Results (Mahalanobis)

Survey	Mah	Survey	Mah	Survey	Mah	Survey	Mah	Survey	Mah
1	33.68	10	17.29	19	11.24	28	8.13	37	3.87
2	24.47	11	16.87	20	11.22	29	7.04	38	3.29
3	23.39	12	15.05	21	10.54	30	6.65	39	3.05
4	23.23	13	14.69	22	10.31	31	4.93	40	2.89
5	21.76	14	13.92	23	9.66	32	4.50	41	1.10
1	33.68	10	17.29	19	11.24	28	8.13		
7	20.06	16	11.90	25	9.63	34	4.00		
8	18.38	17	11.63	26	8.36	35	3.97		
9	17.73	18	11.52	27	8.26	36	3.87		

5.4.3 Non-Response Bias Test

For the purpose of assessing non-response bias, t-tests were applied to compare the early and late respondents. Data collection of this study started in August 2015 and ended in October of the same year. Due to small sample size of Palestinian listed firms (49 firms) and the fact that most of them were located in two main cities, Ramallah city and Nablus city and were convenient for the researcher to reach, the researcher personally distributed survey questionnaires in the last two weeks of August 2015 and collected the last one at the first week of October 2015.

According to Malhotra, Hal, Shaw, and Oppenheim (2006), late respondents may be used as non-respondents, mainly because they would not respond without a proper follow-up. In addition, non-respondents and late respondents are supposed to have

similar characteristics. If variance differences were found to be significant between early and late respondents, the issue of non-response bias has to be considered by a researcher (Armstrong & Overton, 1977).

Hence, the current study applied t-tests as mentioned previously to test the differences between early and late respondents. The test accounted for all study variables. Table 5.5 indicates that no significant differences existed between both groups, namely, early and late respondents.

Table 5.5
T-tests Results of Non-Response Bias

Variable	Test of equality of variance significance	Testing the Equality of Means	
		t-value	Significance
MCS	0.892	0.374	0.790
PEU	0.431	0.731	0.902
National culture	0.655	0.438	0.810
Organizational learning	0.121	-0.323	0.561
Organizational performance	0.757	0.430	0.807

The results of the t-tests presented in Table 5.5 clearly indicate that the assumption of equality variance between early and late respondents was met. Hence, as an equal variance existed for all study variables, so the researcher could proceed to test the equality of means of the early and late respondents. The results presented in the above Table .54 illustrate that all values in the significance column exceeded the cut off value of 0.05, which indicates that no significant differences existed between those two groups. Thus, the conclusion can be made that this study confirmed that non-respondents were not an issue for the purpose of proceeding to examining the proposed hypotheses (Pallant, 2005).

5.4.4 Multicollinearity Test

Testing of multicollinearity among independent variables is greatly recommended before testing the proposed model (Hair et al., 2010). Multicollinearity indicates the existence of a problem in correlation matrix when an independent variable is significantly correlated with another independent variable. The presence of multicollinearity between independent variables makes it impossible to separate the effects of two (or more) of them on a dependent variable. If two variables are significantly collinear, it becomes impossible to determine which of the variables accounts for variance in the dependent variable.

The problem primarily occurs when independent variables are more highly correlated with each other than they are with the dependent variable. Collinearity among more than two independent variables cannot be detected by viewing a correlation matrix of the independent variables. Correlation matrices will not reveal higher order collinearity. Thus, the variance influence factor (VIF) and the tolerance value of the independent variables were examined in this current study.

Based on the recommendation of Hair et al. (2010), multicollinearity arises when the correlation value is over 0.90. This test is facilitated through examining the tolerance value and the variance influence factor (VIF). According to Hair et al. (2010), the tolerance value is the amount of variability of the chosen independent variable that is not explained by other independent variables whereas the variance influence factor (VIF) is the inverse of tolerance. The tolerance value and variance influence factor's (VIF) cut-off points are 0.10 and 10, respectively, indicating that VIF value should be closer to 1.00 in order to indicate little or no multicollinearity.

Table 5.6 highlights the collinearity statistics for all the independent variables in the study model. The correlations between the variables were below 0.90, denoting no problem of multicollinearity. Tolerance values ranged between 0.830 and 0.520 while VIF values ranged between 1.205 and 1.923. Thus, the results signified no violation of the multicollinearity assumption.

Table 5.6
Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	**VIF**
Political	PEU	.530	1.885
Operational		.664	1.506
Competitive		.830	1.205
Technological		.533	1.876
Uncertainty avoidance	National culture	.807	1.239
Collectivism		.520	1.923
Power distance		.578	1.731

Note: The dependent variable is MCS.

5.5 Descriptive Analysis of Constructs

Descriptive analysis normally is used in social science research to describe the basic features of the collected data. Hence, the minimum, maximum, mean and standard deviation value of each indicator were obtained through descriptive statistics. To reiterate, the responses on all research indicators used in this study were based on a 5-point Likert-type scale. The research variables are PEU, national culture, MCS, organizational learning and finally organizational performance. However, to gain a better understanding of the findings the descriptive analysis of each construct will be discussed separately in the following sub sections

5.5.1 Perceived Environmental Uncertainty

Perceived Environmental Uncertainty (PEU) is a main construct and captures four dimensions, namely, perceived political, competitive, technological and operational

uncertainty. Table 5.7 shows the mean, standard deviation, minimum and maximum of the PEU items.

Table 5.7
Descriptive Statistics of Perceived Environmental Uncertainty -PEU

Construct	Code	Min	Max	Mean	Std. Dev
PEU- All dimensions	PEU	1	5	4.08	0.20
Political uncertainty- All items	PolitU	1	5	3.92	0.08
1. Our environment is unpredictable and hard to anticipate the political changes.	PolitU-2	1	5	4.02	0.98
2. Our external environment is very predictable; very easy to forecast the future state of the political environment.	PolitU-4	1	5	3.90	1.11
3. Political instability hinders our company to implement its strategies and plans	PolitU-3	1	5	3.89	1.09
4. Our external environment is very predictable; very easy to forecast the future state of the political environment.	PolitU-1	1	5	3.87	1.10
Competitive -All items	Compt	1	5	4.10	0.081
1. Product introductions in adjacent industries.	Compt-1	1	5	4.15	1.11
2. New industry entrants.	Compt-3	1	5	4.04	1.02
3. Market tactics of competitors.	Compt-2	1	5	3.99	1.08
Technological uncertainty - All items	Tech	1	5	4.07	0.18
1. Competitors technology	Tech-3	1	5	4.22	0.89
2. Change in product technology that affect the relative cost/ efficiency to user.	Tech-1	1	5	4.12	1.00
3. New technology.	Tech-2	1	5	3.88	1.03

Table 5.7 (Continued)

Construct	Code	Min	Max	Mean	Std. Dev
Operational - All items	OperU	1	5	4.24	0.22
1. Diffusion of property knowledge outside the organization	OperU-1	1	5	4.64	0.83
2. Increasing productive capacity	OperU-6	1	5	4.30	0.90
3. Input costs.	OperU-4	1	5	4.22	0.88
4. Scope effect (product breadth).	OperU-3	1	5	4.12	0.91
5. Internal product enhancement.	OperU-5	1	5	4.09	1.01
6. Scale effects (product depth).	OperU-2	1	5	4.07	0.97

Political uncertainty was measured by using four items. As illustrated in Table 5.7, the mean score for those indicators ranged from 3.87 to 4.02, whereas the mean score of all items was *m* = 3.92, which reflects the agreement level toward those political items. For example, the majority of the respondents believed that PolitU-2 (our environment is unpredictable and hard to anticipate the political changes) was a common feature of political uncertainty dominating the Palestinian environment for decades. This, in turn, reflected the difficulties that face Palestinian firms in implementing their strategies and plans due to the political instability. Similarly, the majority of respondents scored PolitU-3 (political instability hinders our company to implement its strategies and plans) highly at *m* = 3.89.

Competitive uncertainty as the second dimension in the PEU was measured by using three items. The mean score for those three items was *m* = 4.10, and the mean score of each indicator ranged from 3.99 to 4.15 (see Table 5.7). Respondents gave Compt-1 (product introductions in adjacent industries) the highest attention as its mean score was *m* = 4.15. The majority of the respondents believed that Compt-3 (new industry

entrants) and Compt-2 (market tactics of competitors) were also common feature of the competitive uncertainty that dominating Palestinian business environment.

Comparing this result with political uncertainty, it is obvious that the competitive uncertainty mean score was higher than the mean score for political uncertainty. This result indicated that competitive uncertainty was more important than political uncertainty in the context of the Palestinian listed firms, which will be discussed in the hypotheses test section.

Technological uncertainty was measured using three items. The mean score for each item ranged between 3.88 and 4.22. The mean score of the total indicators was *m* = 4.07 (see Table 5.7). Respondents believed that Tech-3 (competitor technology) was the main feature of technological uncertainty with *m* = 4.22. Technological differences between competitors usually affects their competitive positions in the market. Hence, Tech-1 (change in product technology that affect the relative cost/efficiency to user), was also given proper attention in the Palestinian companies with *m* = 4.12, which emphasizes the need to look for new technology to maintain their respective competitive position.

Operational uncertainty was the final PEU dimension included in this study. Six indicators were used for the purpose of measuring operational uncertainty. The result of the mean score value of all items was *m* = 4.24, and mean score of each indicator ranged from 4.07 to 4.64 (see Table 5.7). Notably, the highest mean score of all PEU dimensions was operational uncertainty.

The highest value of for operational uncertainty items (m = 4.64) was given to item 1. The majority of respondents believed that OperU-1 (diffusion prosperity knowledge outside the firm) was crucial and one of the important common features of operational uncertainty. The second highest operational uncertainty item was the attention given to increasing productive capacity with m = 4.30. In fact, this indicator has been suggested for inclusion in the survey by the Palestinian managers in the pilot study as was discussed previously in section 4.8.1. This result indicates the importance of increasing productive capacity in the Palestinian listed firms, although many obstacles and uncertainties hinder those firms from increasing their production capacity. More discussion and explanation regarding this point will be highlighted in the hypotheses test section.

5.5.2 National Culture

The second variable is national culture that includes: power distance, uncertainty avoidance and collectivist culture. Table 5.8 shows the mean scores and standard deviation values of the national culture dimensions.

Table 5.8
Descriptive Statistics of National Culture

Construct	Code	Min	Max	Mean	Std. Dev
National Culture- All dimensions	Culture	1	5	3.40	0.18
Power distance - All items	PowDS	1	5	2.68	0.04
1. Subordinates are frequently afraid to express disagreement with superiors.	PowDS-1	1	5	2.71	1.15
2. There is considerable distance between top managers and middle managers.	PowDS-3	1	5	2.67	1.13
3. Top management usually controls most of organization activities and did not delegate controlling power to others.	PowDS-4	1	5	2.65	1.13

Table 5.8 (Continued)

Construct	Code	Min	Max	Mean	Std. Dev
Uncertainty avoidance - All items	Uncerav	1	5	4.04	0.14
1. Our company extremely implements its rules, procedures, and work laws.	Uncerav-3	1	5	4.17	0.78
2. A company or organization's rules should not be broken.	Uncerav-1	1	5	4.14	0.95
3. Our company has specific rules, procedures, and work laws.	Uncerav-2	1	5	4.03	0.90
4. Our company is intolerant of deviant persons or risky ideas.	Uncerav-4	1	5	3.83	0.95
Collectivism- All items	Collect	1	5	3.49	0.21
1. Our company prefer group decision making.	Collect-3	1	5	3.72	0.93
2. Our company prefers to communicate its results with its members.	Collect-1	1	5	3.43	0.92
3. Organization managers prefer to work individually rather than to work in-group.	Collect-2	1	5	3.32	1.11

Power distance dimension was measured by using three items. The mean score *m* = 2.68, was the lowest mean score in the present study. For each power distance item, the mean values ranged from 2.65 to 2.71 (see Table 5.8). Thus, the result shows that no value reached 3.00. This illustrates the weak influence of power distance characteristics on the Palestinian listed firms, which also will be discussed in the hypotheses test section.

Uncertainty avoidance culture was measured using four indicators. Mean score results of each indicator ranged between 3.83 and 4.17, while the mean score of the all items was *m* = 4.04 (see Table 5.8). Comparing this result to the power distance values, it is obvious that the influence of the uncertainty avoidance culture was found to be higher than power distance culture in the Palestinian companies. The majority

of the respondents agreed that Uncerav-3 (our company extremely implements its rules, procedures, and work laws) is one of the common features of avoiding uncertainties as its mean score *m* = 4.17 was the highest items among uncertainty avoidance indicators. Another example of avoiding uncertainties by restricted rules and procedures can be found through Uncerav-1 (a company or organization's rules should not be broken). Palestinian respondents believed that an organization's rules are a fundamental facet of avoiding any potential uncertainty. The impacts of this result on MCS design will be discussed more in depth in the hypotheses test section.

Collectivist culture as the final national culture dimension and was measured by using three items. The mean score of each indicator was found to be above 3.00 and ranged from 3.32 to 3.72. In addition, the total mean score of all collectivism items was *m* = 3.51. The highest mean score *m* = 3.72 was given to Collect-3 (our company prefers group decision making), which is not surprising because the Arab world comprises collectivist societies in its nature. and is integrated into strong and cohesive in-groups (Hofstede & Hofstede, 2004). In comparison to power distance and uncertainty avoidance, the mean score of the collectivist culture *m* = 3.49 was than power distance *m* = 2.68 and lower than uncertainty avoidance value *m* = 4.04. (Refer to Table 5.8 above).

5.5.3 Management Control System

The third variable is MCS that represented by Simons (1995) levers of control. Four dimensions format levers of control include: beliefs, boundary, diagnostics, and interactive control. Table 5.9 presents the descriptive statistics of MCS.

Table 5.9
Descriptive Statistics of Management Control System -MCS

Construct	Code	Min	Max	Mean	Std. Dev
MCS- All dimensions	MCS	1	5	4.03	0.24
Beliefs Control System- All items	Belief	1	5	3.82	0.11
1. Top managers communicate core value to our workforce.	Belief-2	1	5	3.92	0.82
2. Our mission statement clearly communicates the firm's core values to our workforce.	Belief-1	1	5	3.89	0.81
3. Our workforce is aware of the firm's cor 4. values.	Belief-3	1	5	3.82	0.91
5. Our mission statement inspires our workforce.	Belief-4	1	5	3.67	0.87
Boundary Control System- All items	Bound	1	5	3.81	0.13
1. Our firm has system that communicates to our workforce risks that should be avoided.	Bound-3	1	5	4.01	0.87
2. Our workforce is aware of the firm's code of business conduct.	Bound-4	1	5	3.82	0.91
3. Our firm relies on a code of business conduct to define appropriate behaviour for our workforce.	Bound-1	1	5	3.72	0.92
4. Our code of business conduct informs our workforce about behaviours that are off-limits.	Bound-2	1	5	3.70	0.84
Diagnostic Control System- All items	Diagnos	1	5	4.41	0.15
1. Track progress toward goals.	Diagnos-1	2	5	4.54	0.77
2. Monitor results.	Diagnos-2	2	5	4.49	0.72
3. Compare outcome to expectations	Diagnos-3	1	5	4.41	0.78
4. Our workforce is aware of the firm's code of business conduct.	Diagnos-4	1	5	4.18	0.88
Interactive Control System – All items	Interact	1	5	4.09	0.10
1. Enable discussion in meeting of superiors, subordinates and peers	Interact-1	2	5	4.21	0.81
2. Enable organization to focus on critical success factors.	Interact-5	1	5	4.18	0.85
3. Enable continual challenge and debate of underlying data, assumption, and action plan.	Interact-2	1	5	4.13	0.87

Table 5.9 (Continued)

Construct	Code	Min	Max	Mean	Std. Dev
4. Provide common view of the organization.	Interact-3	1	5	4.09	0.91
5. Tie the organization together.	Interact-4	1	5	4.07	0.95
6. Develop a common vocabulary in the organization	Interact-6	1	5	4.03	0.93
7. Enable the organization to focus on common issues	Interact-7	1	5	3.93	0.93

Beliefs system was measured by using four items. The mean values of each beliefs system items ranged from 3.67 to 3.92, whereas the mean score of the all beliefs system items was found *m* = 3.82. The highest mane score of the beliefs system was found to be (Belief-2). The majority of the respondents believed that Belief-2 (top managers communicate core value to our workforce) *m* = 3.92 is a common feature of the beliefs system. Communicating organization core values needs a successful mission statement, which was measured by Belief-1 (our mission statement clearly communicates the firm's core values to our workforce), and that was the second highest score mean *m* = 3.89 of the belief system items.

Boundary system was also measured by using four items. Mean scores ranged from 3.70 to 4.01. The total mean value of all boundary system items was *m* = 3.81 (see Table 5.9). The majority of the respondents believe that avoiding risk is fundamental in a boundary system. This clearly appears in the mean score of the Bound-3 (our firm has system that communicates to our workforce risks that should be avoided), as it was the highest mean score *m* = 4.01 of boundary system items.

Diagnostic control system was measured by using four items. Mean scores ranged from 4.18 to 4.54, while mean value of all diagnostic control items was *m* = 4.41 (see

Table 5.9). Palestinian managers believe that Diagnos-1 (track progress toward goals) is a common feature of diagnostic system as its mean score *m* = 4.54 was the highest among all items. In addition to that Diagnos-2 (monitor results) was also considered an important common feature for a diagnostic system with mean score of *m* = 4.49.

Interactive control, as the final control system, in the LOC framework was measured by using seven items. Mean scores ranged from 3.93 to 4.21 and the total mean score was *m* = 4.09 (see Table 5.9). Respondents believe that Interact-1 (enable discussion in meeting of superiors, subordinates and peers) is one of the essential characteristics of the interactive control with mean score of *m* = 4.21. Similarly, Interact-5 (enable organization to focus on critical success factors) was found to be the second highest mean score *m* = 4.18.

However, diagnostic control system was found to be the highest among all MCS dimensions with mean score of *m* = 4.41 and that reflects the importance of the diagnostic system to the Palestinian companies, which is in harmony with Simons, (2000) who described diagnostic control system as the backbone of MCS. Furthermore, the mean score of all these control systems together was found to be *m* = 4.03. This result indicates the fundamental role of a MCS to the Palestinian companies.

5.5.4 Organizational Learning

Organizational learning is the mediating variable of the current study. Four items were used to measure this construct. Table 5.10 illustrates descriptive statistics of organizational learning.

Table 5.10
Descriptive Statistics of Organizational Learning

Construct	Code	Min	Max	Mean	Std. Dev
Organizational learning - All items	Learn	1	5	4.20	0.11
1. Learning is the key to improvement	Learn-1	1	5	4.30	0.93
2. earning is viewed as an investment, not an expense.	Learn-4	1	5	4.24	0.85
3. Basic values include learning as a key to improvement.	Learn-2	1	5	4.22	0.85
4. Once we quit learning we endanger our future.	Learn-3	1	5	4.05	0.91

Table 5.10 above shows that means ranged from 4.05 to 4.30, while mean value of all items was found to be m = 4.20. This result shows the agreement level about the features of organizational learning in Palestinian listed firms. The highest mean score is a belief that learning is the key to improvement m = 4.30 item (Learn-1). Following that, respondents believed that learning is an investment and not an expense as was clearly reflected in the second highest mean score m = 4.24 item (Learn-4).

5.5.5 Organizational Performance

Organizational performance as the ultimate aim of this study was measured using seven items that capture the extent of organizational performance in the explored organizations. The organizational performance construct contains both financial and non-financial performance elements. Table 5.11 illustrates descriptive statistics of organizational performance.

Table 5.11
Descriptive Statistics of the Organizational Performance

Construct	Code	Min	Max	Mean	Std. Dev
Organizational performance - All items	FP	1	5	4.01	0.20
1. Product/ services quality.	NFP-4	1	5	4.38	0.74
2. Customer satisfaction.	NFP-3	1	5	4.12	0.81
3. Developing employee competencies and skills.	NFP-6	1	5	4.07	0.90
4. Overall organizational profitability.	FP-1	1	5	3.94	0.98
5. Return on Investment.	FP-2	1	5	3.91	0.90
6. Development of new products / services.	NFP-5	1	5	3.93	0.92
7. Employee satisfaction.	NFP-7	1	5	3.78	0.92

As illustrated in the above Table 5.11 mean scores of the organizational performance ranged from 3.78 to 4.38. Values of the mean score of all items was found to be *m* = 4.01. Palestinian managers as the respondents of this study believed that NFP-4 (product/services quality) was a fundamental performance evaluation as it was the highest mean score *m* = 4.38. In addition to that, customer satisfaction was also considered a common feature of the performance evaluation with a mean score of *m* = 4.12 item (NFP-3) in the Palestinian companies.

5.6 Testing the Goodness of the Measurements Model)Outer Model)

The original study model included 58 reflective items for 13 variables (latent variables). Testing the goodness of the measurements is a fundamental step to ensure that measurements are reliable and valid before proceeding to analyse the construct model and testing the proposed hypotheses. Previous research has shown that two ways of testing the goodness of the data exist. The first one is the Exploratory Factor Analysis (EFA), and the second method is Confirmatory Factor Analysis (CFA) (Hair, Black, Babin, & Anderson, 2013). Although both methods are similar in some respects, some philosophical differences are present between them.

However, despite the fact that EFA approach is more widely used in organizational and business studies (Maha, 2013), this approach has inevitable limitations (Sureshchandar, Rajendran, & Anantharaman, 2001). One essential limitation of EFA appears in the way through which an item is assigned to the factor. Under this concept, the criterion to determine the goodness of the measurement is by looking to the higher loading regardless the possibility of the item to load on another factor.

Accordingly, relying on this criterion may affect the distinctiveness of the factors because of the cross loading. Add to this, the method of assigning the items to a factor in EFA is determined by statistical reasoning and not based on the theoretical justification as is the case of CFA. The final reason to use CFA instead of EFA is that CFA gives more care about the concept of unidimensionality (Ahire, Golhar, & Waller, 1996). Consequently, this study performed CFA to test the outer model (measurement model) through examining the association between items and its respective constructs. To that end, SmartPLS Version 2 was used to examine the reliability and validity of the measurement model. Because the framework of this study contains variables and dimensions, first and second order constructs, assessing the measurements model will be performed by estimating the first order, which give an explanation of the relationship between the items and its respective construct.

Two criteria are used to test the measurement model (outer model), and they are reliability and the validity. Sekaran and Bougie (2010) described reliability as a test of how consistently a measuring instrument measures whatever concept it is measuring, whereas validity is a test of how well an instrument that is developed measures the particular concept it is intended to measure.

Testing the reliability and validity of the measurements by applying CFA approach comprises assessing convergent validity and discriminate validity, which will be discussed in sub-sections 5.6.1 and 5.6.2 respectively.

5.6.1 Convergent Validity

Convergent validity is a statistical test used to describe the agreement level between each item of the same construct. It show if any conflict exists between the measurements of the same construct (Ramayah, Lee, & In, 2011). Based on classical test theory, examining convergent validity is based upon the correlation between each measurement of the particular construct that has been taken through various method (Peter, 1981). For that purpose, Hair et al. (2010) suggested that researchers employ factor loading, Composite Reliability (CR) and Average Variance Extracted (AVE) to test the convergent validity, which will be highlighted in the following sub-sections respectively.

5.6.1.1 Factor loading (Outer loading)

Factor loading of the measurement model is an essential reliability test for examining the load of each item on its respective construct. In fact, factor loading reflects the level to which the items of the same construct are consistent with each other. The more consistency between construct items the highest factor loading will be. Thus, Hair, Hult, Ringle, and Sarstedt (2014), suggested that factor loading should meet the requirement of the standard value of 0.70. Therefore, the more the value is above 0.70 the stronger is the consistency between construct measurements. In harmony with the suggestions of Hair et al. (2014), all values of factor loadings in the current study exceeded the recommended cut-off 0.70 and range between 0.719 to 0.907 as presented in Table 5.12.

Table 5.12
Results of Measurements Model – Factor Loading

Constructs Code	Items	Factor Loading
Beliefs-1	Our mission statement clearly communicates the firm's core values to our workforce.	0.865
Beliefs-2	Top managers communicate core values to our workforce.	0.904
Beliefs-3	Our workforce is aware of the firm core values.	0.822
Beliefs-4	Our mission statement inspires our workforce.	0.795
Bound-1	Our firm relies on a code of business conduct define appropriate behaviour for our workforce.	0.944
Bound-2	Our code of business conduct informs our workforce about behaviours that are off-limits.	0.847
Bound-3	Our firm has a system that communicates to our workforce risks that should be avoided.	0.814
Bound-4	Our workforce is aware of the firm's code of business conduct.	0.887
Diagnos-1	Track progress towards goals.	0.914
Diagnos-2	Monitor results.	0.808
Diagnos-3	Compare outcomes to expectations.	0.862
Diagnos-4	Review key measures.	0.801
Interact-1	Enable discussion in meetings of superiors, sub-ordinates and peers.	0.796
Interact-2	Enable continual challenge and debate underlying data, assumptions and action plans.	0.902
Interact-3	Provide a common view of the organization.	0.915
Interact-4	Tie the organization together.	0.866
Interact-5	Enable the organization to focus on common issues.	0.864
Interact-6	Enable the organization to focus on critical success factors.	0.856
Interact-7	Develop a common vocabulary in the organization.	0.783
PolitU-1	Our environment is very safe and there is little threat to our survival and growth.	0.839
PolitU-2	Our environment is unpredictable and hard to anticipate the political changes.	0.869
PolitU-3	Our external environment is very predictable; very easy to forecast the future state of the political environment.	0.713
PolitU-4	Our company faces difficulties in implementing its strategies and plans due to the political instability.	0.848

Table 5.12 (Continued)

Constructs Code	Items	Factor Loading
Compet-1	Product introductions in adjacent industries.	0.906
Compet-2	Market tactics of competitors.	0.902
Compet-3	New industry entrants.	0.888
OperU-1	Diffusion of prosperity knowledge outside the firm.	0.749
OperU-2	Scale effects (product depth).	0.905
OperU-3	Scope effect (product breadth).	0.850
OperU-4	Input costs.	0.774
OperU-5	Internal product enhancement.	0.835
OperU-6	Increasing productive capacity	0.779
Tech-1	Change in product technology that affect the relative cost/ efficiency to user.	0.894
Tech-2	New technology.	0.914
Tech-3	Competitors technology.	0.933
Uncerav-1	A company or organization's rules should not be broken.	0.837
Uncerav-2	Our company has specific rules, procedures, and work laws.	0.926
Uncerav-3	Our company extremely implements its rules, procedures, and work laws.	0.797
Uncerav-4	Our company is intolerant of deviant persons or risky ideas.	0.836
PowDis-1	Subordinates are frequently afraid to express disagreement with superiors.	0.744
PowDis-2	Top management usually controls most of organization activities and did not delegate controlling power to for others.	0.892
PowDis-3	There is are considerable distance between top managers and middle managers.	0.827
Collect-1	Our company prefers to communicate its results with its members.	0.766
Collect-2	Organization managers prefer to work individually rather than to work in -groups.	0.785
Collect-3	Our company prefers group decision making.	0.880
Learn-1	Learning is the key to improvement.	0.917
Learn-2	Basic value include learning as a key to improvement.	0.943
Learn-3	Once we quit learning we endanger our future.	0.794
Learn-4	Learning is viewed as an investment not an expense.	0.917

Table 5.12 (Continued)

Constructs Code	Items	Factor Loading
FP-1	Overall firm's profitability.	0.744
FP-2	Return on investment.	0.721
NFP-3	Customer satisfaction.	0.880
NFP-4	Product/ services quality.	0.773
NFP-5	Development of new products / services.	0.810
NFP-6	Developing employees' competencies and skills.	0.897
NFP-7	Employees' satisfaction.	0.879

As displayed in Table 5.12, all factor loadings of the present study were greater than the recommended value of 0.70, and ranged from 0.713 to 0.944, which was in harmony with the suggestion of Hair et al. (2014).

5.6.1.2 Composite reliability (CR)

Although the internal consistency of the study measurements was checked by using factor loading to confirm the reliability of the study measurements, composite reliability is another way to test reliability. Composite reliability is a measure of the overall reliability of a collection of heterogeneous but similar items. Composite reliability provides an assessment of the shared variance by the respective indicators through using the item loading obtained within the nomological network. Hence, it represents to which extent the items consistently explain the latent construct (Hair et al., 2010). The formula to calculate composite reliability is displayed in equation 5.1.

$$CR_{\eta} = \frac{\left(\Sigma\lambda_{\gamma_i}\right)^2}{\left(\Sigma\lambda_{\gamma_i}\right)^2 + \Sigma\varepsilon_i} \quad (5.1)$$

λi = loadings of indicator i of a latent variable

εi = measurement error of indicator i

j = flow index across all reflective measurement model

The value of composite reliability (CR) should be greater than 0.70 to confirm that the construct indicators reflect the latent variable (Hair et al., 2011; Valerie, 2012). In the current study, all values of composite reliability (CR) exceeded the recommended cut-off 0.70 and ranged from 0.852 to 0.950 as presented in Table 5.13.

Table 5.13
Results of Measurements Model – Composite Reliability (CR)

Construct	Composite Reliability (CR)
MCS/ Beliefs	0.910
MCS/ Boundary	0.928
MCS/ Diagnostic	0.910
MCS/ Interactive	0.950
PEU- Political	0.891
PEU- Competition	0.926
PEU- Operational	0.923
PEU- Technological	0.938
Culture/ Uncertainty Avoidance	0.912
Culture/ Power Distance	0.863
Culture/ Collectivism	0.852
Organizational Learning	0.941
Organizational Performance	0.933

5.6.1.3 Average Variance Extracted (AVE)

The AVE is a statistical assessment that measures the average percentage of the variance extracted commonly amongst the observed variables. The formula to calculate the AVE as suggested by Hair et al. (2010) is displayed in Equation 5.2.

$$\text{AVE} = \frac{\sum_{i=1}^{n} \lambda_i^2}{n} \quad (5.2)$$

λi = the standardized factor loading of the i^{th} item.

n = number of items that measure the respective construct.

The recommended standard value of AVE as suggested by Henseler and Sarstedt (2013), Hair et al. (2010) and Fornell and Bookstein (1982) ought to be greater than 0.50 in order to ensure that the latent variable has the ability to explain more than half of the variance of its indicator on average. Accordingly, AVE examines the variance encapsulated by the indicators relative to measurement error. Therefore, AVE value must be higher than 0.50 to justify the use of the construct (Hair et al., 2011; Valerie, 2012). In the present study, all AVE values justified the use of all constructs as the values exceeding the recommended cut-off value of 0.50 and ranged from 0.549 to 0.757. Table 5.14 presents the results of AVE.

Table 5.14
Results of Measurements Model – Average Variance Extracted (AVE)

Construct	**Average Variance Extracted (AVE)**
MCS/ Beliefs	0.718
MCS/ Boundary	0.764
MCS/ Diagnostic	0.718
MCS/ Interactive	0.732
PEU- Political	0.672

Table 5.14 (Continued)

Construct	Average Variance Extracted (AVE)
PEU- Competition	0.807
PEU- Operational	0.667
PEU- Technological	0.835
Culture/ Uncertainty Avoidance	0.723
Culture/ Power Distance	0.678
Culture/ Collectivism	0.659
Organizational Learning	0.800
Organizational Performance	0.668

5.6.2 Discriminant Validity

Discriminant validity is the extent to which a construct is truly distinct from other constructs by empirical standards. Hence, discriminant validity is a statistical test used to evaluate the degree to which items differentiate among constructs. Consequently, it measures the distinct concepts by examining the correlations between the measures of potentially overlapping constructs. In other words, it measures the extent to which the items of construct (A), for example, are related to each other more than related to another construct such as (B). Hence, discriminant validity of the measures is the degree to which items differentiate among constructs or measure distinct concepts (Hair et al., 2014).

Based on this concept, a high discriminant validity value implies that a construct is unique in measuring a phenomenon in such a way that cannot be captured by other construct (Hair et al., 2010). Furthermore, discriminant validity is an important test to ensure that no cross-loading issues are present that are related to the measured items, and, as such, discriminant validity was employed in this current study to

confirm that each group of measurements was more related to its construct than to another construct by examining the overlap in variance.

Therefore, if a specific construct is more correlated with another construct than with its own measures, this means that a possibility exists that the two constructs share the same types of measures, and they are not conceptually distinct (Chin, 2010). For that measurement purpose, two types of criteria were applied to test discriminant validity. The first criteria to test discriminant validity is by examining the cross loading (correlation) (Chin, 2010; Hulland, 1999). In this method, the value of the factor loading of each item to its respective construct should exceed the correlation with other construct (i.e., cross loading) (Chin, 1998, 2010). Hence, the matrix of cross loading can explain the discriminant validity. Table 5.15 presents the findings of the cross loading.

Table 5.15
Discriminant Validity- Cross Loading

Construct	Beliefs	Boundary	Diagnostic	Interactive	Collectivism	Power distance	Uncertainty	Political	Competition	Operational	Technological	Learning	Performance
Beliefs-1	0.87	0.46	0.72	0.69	0.31	-0.28	0.47	0.48	0.39	0.37	0.23	0.46	0.81
Beliefs-2	0.90	0.44	0.70	0.64	0.39	-0.13	0.48	0.46	0.38	0.41	0.34	0.49	0.63
Beliefs-3	0.82	0.63	0.51	0.51	0.11	-0.25	0.40	0.60	0.54	0.47	0.50	0.19	0.34
Beliefs-4	0.80	0.72	0.54	0.54	0.20	-0.22	0.57	0.53	0.62	0.31	0.50	0.42	0.68
Bound-1	0.69	0.94	0.46	0.58	0.18	-0.38	0.70	0.66	0.72	0.39	0.62	0.24	0.48
Bound-2	0.58	0.85	0.30	0.48	0.00	-0.26	0.55	0.63	0.64	0.27	0.57	0.20	0.50
Bound-3	0.50	0.81	0.44	0.58	0.00	-0.39	0.49	0.62	0.53	0.20	0.66	0.27	0.37
Bound-4	0.50	0.89	0.34	0.48	0.19	-0.30	0.63	0.56	0.65	0.24	0.67	0.28	0.28
Diagnos-1	0.72	0.36	0.91	0.67	0.44	-0.33	0.53	0.39	0.40	0.47	0.29	0.57	0.67
Diagnos-2	0.43	0.19	0.81	0.48	0.46	-0.20	0.44	0.33	0.27	0.44	0.31	0.41	0.42
Diagnos-3	0.69	0.46	0.86	0.71	0.62	-0.22	0.72	0.40	0.53	0.41	0.24	0.56	0.79
Diagnos-4	0.62	0.46	0.80	0.68	0.24	-0.16	0.59	0.42	0.19	0.26	0.41	0.50	0.63
Interact-1	0.64	0.59	0.67	0.80	0.20	-0.34	0.46	0.62	0.49	0.32	0.51	0.43	0.53
Interact-2	0.63	0.49	0.73	0.90	0.30	-0.17	0.47	0.51	0.36	0.13	0.41	0.56	0.66
Interact-3	0.55	0.49	0.61	0.92	0.25	-0.19	0.48	0.43	0.24	-0.02	0.33	0.55	0.59
Interact-4	0.63	0.68	0.64	0.87	0.24	-0.45	0.62	0.67	0.48	0.33	0.56	0.38	0.51
Interact-5	0.74	0.58	0.74	0.86	0.34	-0.34	0.70	0.46	0.42	0.25	0.28	0.51	0.69
Interact-6	0.63	0.45	0.67	0.86	0.22	-0.18	0.46	0.48	0.18	0.00	0.39	0.50	0.63
Interact-7	0.33	0.33	0.45	0.78	0.17	0.03	0.32	0.25	0.02	-0.15	0.28	0.40	0.39
Collect-1	0.19	0.08	0.52	0.04	0.77	0.02	0.41	0.33	0.14	0.13	-0.03	0.34	0.26
Collect-2	0.09	-0.10	0.32	0.06	0.79	-0.35	0.28	0.07	0.04	0.28	-0.13	-0.06	0.08
Collect-3	0.41	0.22	0.57	0.33	0.88	-0.15	0.63	0.10	0.33	0.35	0.08	0.29	0.45
PowDS-1	-0.27	-0.39	-0.14	-0.23	-0.18	0.74	-0.24	-0.33	-0.24	-0.14	-0.20	0.02	-0.09
PowDS-3	-0.28	-0.41	-0.30	-0.29	-0.13	0.89	-0.27	-0.47	-0.28	-0.25	-0.26	-0.12	-0.16
PowDS-4	-0.07	-0.13	-0.21	-0.17	-0.16	0.83	-0.17	-0.16	-0.01	-0.15	0.03	-0.12	-0.04
Uncerav-1	0.45	0.55	0.65	0.55	0.46	-0.11	0.84	0.28	0.39	0.36	0.40	0.63	0.57
Uncerav-2	0.55	0.54	0.63	0.48	0.51	-0.11	0.93	0.39	0.47	0.56	0.33	0.35	0.59
Uncerav-3	0.46	0.60	0.52	0.59	0.33	-0.33	0.80	0.44	0.36	0.36	0.29	0.32	0.53
Uncerav-4	0.46	0.62	0.52	0.42	0.61	-0.40	0.84	0.44	0.54	0.38	0.42	0.21	0.39
PolitU-1	0.56	0.70	0.46	0.54	0.14	-0.35	0.53	0.84	0.60	0.31	0.75	0.25	0.47
PolitU-2	0.59	0.63	0.40	0.59	0.01	-0.56	0.34	0.87	0.47	0.38	0.59	0.12	0.34
PolitU-3	0.48	0.57	0.38	0.44	0.08	-0.18	0.35	0.71	0.55	0.44	0.78	0.08	0.22

Construct	Beliefs	Boundary	Diagnostic	Interactive	Collectivism	Power distance	Uncertainty	Political	Competition	Operational	Technological	Learning	Performance
PolitU-4	0.44	0.64	0.45	0.37	0.09	-0.21	0.58	**0.85**	0.55	0.64	0.55	0.30	0.40
Compt-1	0.54	0.62	0.45	0.36	0.36	-0.20	0.56	0.54	**0.91**	0.46	0.46	0.33	0.41
Compt-2	0.41	0.61	0.24	0.25	0.21	-0.15	0.46	0.55	**0.90**	0.49	0.42	-0.01	0.26
Compt-3	0.54	0.62	0.33	0.28	0.03	-0.29	0.38	0.53	**0.89**	0.51	0.49	0.20	0.29
OperU-1	0.39	0.48	0.26	0.22	0.20	-0.13	0.21	0.38	0.30	**0.74**	0.38	0.07	0.34
OperU-2	0.42	0.57	0.29	0.38	0.24	-0.11	0.32	0.36	0.17	**0.91**	0.34	0.13	0.34
OperU-3	0.44	0.49	0.25	0.15	0.01	-0.29	0.42	0.58	0.56	**0.85**	0.41	0.10	0.24
OperU-4	0.27	0.10	0.44	0.05	0.46	-0.03	0.44	0.22	0.33	**0.77**	0.17	0.09	0.14
OperU-5	0.41	0.21	0.51	0.19	0.44	-0.16	0.36	0.20	0.52	**0.84**	0.22	0.19	0.29
OperU-6	0.34	0.07	0.37	0.07	0.30	-0.22	0.35	0.22	0.22	**0.78**	0.02	0.09	0.13
Tech-1	0.40	0.61	0.31	0.35	0.02	-0.27	0.39	0.73	0.43	0.28	**0.89**	0.15	0.13
Tech-2	0.41	0.68	0.36	0.51	-0.03	-0.18	0.40	0.75	0.47	0.22	**0.91**	0.30	0.29
Tech-3	0.42	0.67	0.33	0.41	-0.03	-0.07	0.37	0.69	0.60	0.30	**0.93**	0.25	0.25
Learn-1	0.56	0.37	0.55	0.56	0.13	-0.10	0.42	0.28	0.30	0.17	0.26	**0.92**	0.62
Learn-2	0.46	0.27	0.64	0.56	0.25	-0.11	0.46	0.13	0.24	0.25	0.22	**0.94**	0.55
Learn-3	0.06	0.01	0.31	0.19	0.29	0.16	0.25	-0.06	0.00	-0.02	0.14	**0.79**	0.26
Learn-4	0.38	0.22	0.58	0.54	0.28	-0.12	0.35	0.13	0.10	0.02	0.25	**0.92**	0.47
FP-1	0.49	0.22	0.58	0.44	0.25	0.04	0.40	0.11	0.29	0.08	0.02	0.42	**0.74**
FP-2	0.47	0.35	0.57	0.59	0.18	0.06	0.47	0.32	0.23	0.03	0.22	0.35	**0.72**
NFP-3	0.70	0.44	0.63	0.50	0.19	-0.16	0.49	0.44	0.42	0.40	0.30	0.42	**0.88**
NFP-4	0.60	0.28	0.70	0.57	0.35	-0.19	0.52	0.40	0.20	0.38	0.17	0.50	**0.77**
NFP-5	0.58	0.39	0.48	0.53	0.29	-0.11	0.52	0.26	0.27	0.14	0.20	0.45	**0.81**
NFP-6	0.71	0.52	0.73	0.64	0.36	-0.20	0.59	0.37	0.56	0.33	0.25	0.59	**0.90**
NFP-7	0.61	0.43	0.59	0.58	0.35	-0.08	0.47	0.24	0.35	0.05	0.21	0.50	**0.90**

The results of the cross loadings presented in Table 5.15 point out that the value of the factor loading of each item (bold numbers) to its respective construct exceeded the correlation with other construct as (Chin, 1998, 2010) recommended. Thus, the discriminant validity of measures used in the current study has meet the requirements proving the validity of the study measurements.

The second criteria was the AVE test (Fornell & Bookstein, 1982). In this method, discriminant validity occurs when the calculation of square root of AVE is greater

than the correlation between the factors making each pair. In other words, the value should be higher than the other off-diagonal elements in the rows and columns, which was the case in the correlation matrix of this study. This demonstrated the discriminant validity of the measurements used. Table 5.16 presents the findings of the variable correlation-square root of AVE.

Table 5.16
Variable Correlation -Root Square of AVE

Constructs	BE	BO	COL	COM	DIG	INT	OU	OL	OP	PU	PD	TU	UA
Beliefs (BE)	**0.847**												
Boundary (BO)	0.654	**0.874**											
Collectivism (COL)	0.307	0.107	**0.812**										
Competition (COM)	0.604	0.707	0.089	**0.898**									
Diagnostic (DIG)	0.735	0.447	0.518	0.459	**0.847**								
Interactive (INT)	0.706	0.610	0.289	0.581	0.761	**0.856**							
Operational (OU)	0.733	0.469	0.350	0.381	0.755	0.676	**0.817**						
Organizational Learning (OL)	0.467	0.281	0.244	0.170	0.610	0.557	0.569	**0.895**					
Organizational Performance (OP)	0.563	0.729	0.229	0.603	0.418	0.379	0.418	0.212	**0.817**				
Political (PU)	0.461	0.321	0.328	0.419	0.461	0.152	0.257	0.144	0.541	**0.820**			
Power Distance (PD)	-0.260	-0.386	-0.192	-0.398	-0.271	-0.285	-0.123	-0.087	-0.226	-0.228	**0.823**		
Technological (TU)	0.452	0.716	-0.016	0.789	0.366	0.464	0.246	0.255	0.548	0.296	-0.185	**0.914**	
Uncertainty Avoidance (UA)	0.567	0.679	0.568	0.456	0.683	0.594	0.609	0.433	0.524	0.491	-0.281	0.423	**0.850**

Table 5.16 above clearly shows that the values of all square root of AVE (bold values) exceeded the correlation with other constructs (elements in the rows and columns), which demonstrate the discriminant validity of this study.

5.7 Conclusion of the Measurement Model

The measurement model of this study has been tested according to the suggestions of SEM literature. Thus, convergent validity measuring the internal consistency of the construct indicators has been tested and successfully exceeded the recommended values of all measurements techniques, namely, factor loading, composite reliability (CR) and the AVE. Hence, this study passes reliability and validity tests for its measurements.

Discriminant validity that was used to evaluate the degree to which items differentiated among constructs using cross loading matrix. The cross loading matrix showed that the values of all factor loading had higher loadings on their respective constructs instead of having a higher loading on another construct as (Chin, 1998, 2010) suggested. In addition, variable correlation was also checked by examine the square root of AVE. The results implied that all values were higher than other off-diagonal as Fornell and Bookstein (1982) recommended. Accordingly, the discriminant validity test successfully demonstrated the validity of the measurements. Figure 5.1 illustrates the final reliable and valid measurement model by using SmartPLS Version .2. Thus, because the tests demonstrated the reliability and validity of the data, the researcher proceeded to analyse the construct model to test the research hypotheses, as it will be discussed in the next section.

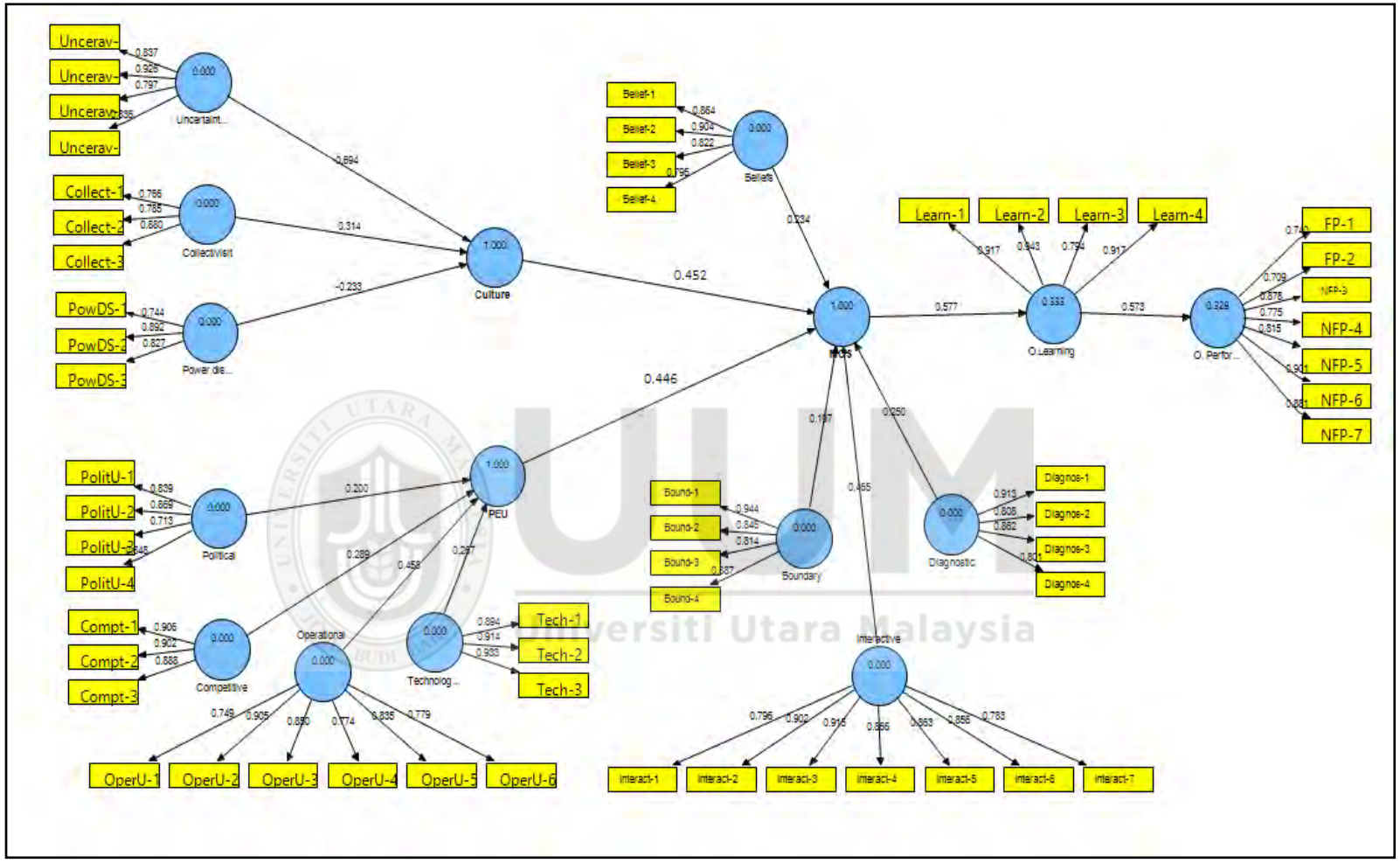

Figure 5.1
The Final Reliable and Valid Model by Using SmartPLS Version 2.

5.8 Testing the Structural Model (Inner Model)

Having examined the reliability and the validity of the measurement model, the next step is to evaluate the structural model. In doing so, five different tests were performed to evaluate the inner model as Chin (2010), Hair et al. (2011), and Valerie (2012) suggested. Those are: Coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), goodness of fit (GoF), and finally path coefficient. Each test will be discussed separately in the following sub-sections.

5.8.1 Coefficient of Determination (R^2)

Coefficient of determination or what known as R^2, is one of the central criteria in the evaluation of the structural model by PLS-SEM. In fact, R^2 value represents the portion of variation in the endogenous variable(s) that can be explained by one or more exogenous variables. Hair et al. (2011) stressed the fundamental role of R^2 and noted that "the primary evaluation criteria for the structural model are the R^2 measures and the level and significance of the path coefficients. Because the goal of the prediction-oriented PLS-SEM approach is to explain the endogenous latent variables variance, the key target constructs level of R^2 should be high" (p. 147).

Chin (1998), suggested that values of R^2 more than 0.67 are considered high, while values ranging from 0.33 to 0.67 are considered moderate, whereas values between 0.19 to 0.33 are considered weak and any R^2 values less than 0.19 are unacceptable. Thereby, the quality of structural model depends on the values of R^2, which demonstrate the ability of the exogenous variable(s) in explaining the endogenous variables. Thus, based on the results of this study, all values of R^2 have fulfilled

Chin's (1998) criteria. Table 5.17 presents R-Square (R^2) of the endogenous latent variables of the second order.

Table 5.17
R-Square of the Endogenous Latent Variables- Second Order Constructs

Latent Construct	**R^2**	**Result**
PEU & national culture → MCS	0.617	Moderate
MCS → organizational learning	0.331	Moderate
Organizational learning → organizational performance	0.622	Moderate

Based on the results that are presented in the Table 5.17 above, the power of PEU and national culture together in explaining MCS was found to be moderate as the R^2 value was 0.617. Indicating that PEU and national culture together can account for 61.7% of the variance in the MCS in the Palestinian listed firms. In addition, the power of MCS in explaining organization learning was considered moderate because R^2 was 0.331 indicating that MCS can account for 33.1% of the variance in the organization learning. Finally, the R^2 of the organizational performance was moderate with value of 0.622 referring to the ability of the organizational learning and MCS explain 62.2% of variance in organizational performance.

In addition to the R^2 of the second order as was discussed and presented in Table 5.17, the researcher also examined the R^2 for the first order. First order is concerned with the association between the dimensions of the research variables. Accordingly, PEU and national culture were examined on each dimension of levers of control (i.e., beliefs, boundary, diagnostics, and interactive control). Hence, the R^2 values of each endogenous construct in the first order was tested and presented in Table 5.18.

Table 5.18
R-Square of the Endogenous Latent Variables- First Order Constructs

Latent Construct	R^2	Result
PEU & national culture → Beliefs control	0.485	Moderate
PEU & national culture → Boundary control	0.774	Large
PEU & national culture → Diagnostics control	0.543	Moderate
PEU & national culture → Interactive control	0.413	Moderate

Based on the results that are presented in the Table 5.18 above, the power of PEU and national culture together in explaining beliefs system was found to be moderate as the R^2 value was 0.485. Indicating that PEU and national culture together can account for 48.5% of the variance in the beliefs system in the Palestinian listed firms. Whereas, the power of PEU and national culture together in explaining boundary control system was considered large as the R^2 value exceed 0.67 and it was found to be 0.774. Indicating that PEU and national culture together can account for 77.4% of the variance in the boundary control system. In fact, this R^2 value is the largest value among all endogenous variables whether in the first or in the second order, which explaining the priority of the boundary system to the Palestinian companies. This result will be more discussed in the hypothesis test section.

However, the power of PEU and national culture together in explaining diagnostic control was found to be moderate as the R^2 value was 0.543. Indicating that PEU and national culture together can account for 54.3% of the variance in the diagnostic control in the Palestinian listed firms. In the other hand, R^2 value of the interactive control was found to be 0.413 indicating that PEU and national culture together can account for 41.3 % of the variance in the interactive control. Based on the results of the R^2 for each endogenous variable of the first and second order model as was

shown in Table 5.17 and 5.18, the researcher also calculated the effect size of each exogenous variables, which is discussed in the next section.

5.8.2 The Effect Size (f^2)

After evaluating the R^2, determining the change in R^2 by assessing the effect size (f^2) to see whether the effect of a particular exogenous variable on a endogenous variable has a substantial effect is important. For that purpose, the formula to calculate effect size is displayed in equation 5.3.

$$Effect\ size: f^2 = \frac{R^2_{Included} - R^2_{Excluded}}{1 - R^2_{Included}} \qquad (5.3)$$

Whereas R^2 *included* represent the R^2 when the predictor exogenous latent variable exists in the structural model whereas, R^2 *excluded* are the values of R^2 when this specific exogenous latent variable omitted from the structural model respectively. In this context, and according to Cohen's (1988) suggestions, the operational definition for multiple regression, which represents a criteria to determine whether a predictor exogenous variables has no, small, medium or large effect size (f^2) was used. Accordingly, values of f^2 more than 0.35 are considered to be a large effect size while, values ranging from 0.15 to 0.35 are considered medium, values between 0.02 and 0.15 considered small and lastly any values less than 0.02 are consider to have no effect. Table 5.19 presents the f^2 for the second order of this study.

Table 5.19
The Effect Size of the Exogenous Constructs - Second Order

Constructs	R^2 Included	R^2 Excluded	Effect Size- f^2	Results
PEU → MCS	0.617	0.486	0.342	Medium effect
National culture → MCS	0.617	0.666	0.381	Large effect

From the above Table 5.19, it is clear that the effect size of PEU on MCS was medium while, the effect size of national culture on MCS was large. In addition to the f^2 of the second order as was discussed and presented in Table 5.19, the researcher also examined the f^2 for the first order. First order is concerned with the association between the dimensions of the research variables.

In the current study, the dimensions of the national culture dimensions (i.e., high power distance, high uncertainty avoidance, and collectivist culture) and PEU were examined on each dimension of levers of control (i.e., beliefs, boundary, diagnostics, and interactive control). Table 5.20 presented the results.

Table 5.20
The Effect Size of the Exogenous Constructs-First Order

Constructs	R^2 Included	R^2 Excluded	Effect Size - f^2	Effect
Uncertainty avoidance→ Beliefs system	0.485	0.463	0.042	Small
Uncertainty avoidance→ Boundary system	0.774	0.659	0.509	Large
Uncertainty avoidance→ Diagnostic control	0.543	0.479	0.140	Small
Uncertainty avoidance→ Interactive control	0.413	0.320	0.158	Medium
Collectivism → Beliefs system	0.485	0.479	0.012	None
Collectivism → Boundary system	0.774	0.721	0.235	Medium

Table 5.20 (Continued)

Constructs	R^2 Included	R^2 Excluded	Effect Size - f^2	Effect
Collectivism → Diagnostic control	0.543	0.501	0.092	small
Collectivism → Interactive control	0.413	0.412	0.002	none
Power distance → Beliefs system	0.485	0.484	0.002	none
Power distance → Boundary system	0.774	0.759	0.066	small
Power distance → Diagnostic control	0.543	0.542	0.002	none
Power distance → Interactive control	0.413	0.403	0.017	none
PEU → Beliefs system	0.485	0.346	0.270	Medium
PEU → Boundary system	0.774	0.614	0.708	Large
PEU → Diagnostic control	0.543	0.515	0.061	small
PEU → Interactive control	0.413	0.387	0.044	small
Beliefs system → Organizational Learning	0.393	0.392	0.002	None
Boundary system → Organizational Learning	0.393	0.388	0.008	None
Diagnostic control → Organizational Learning	0.393	0.345	0.079	small
Interactive control → Organizational Learning	0.393	0.369	0.040	small

As shown in Table 5.20, the effect size of the PEU and national culture dimensions (i.e., high uncertainty avoidance, high power distance, and collectivist culture) on each dimension of the levers of control (i.e., beliefs, boundary, diagnostics, and interactive control) is ranging from a large effect to no effect. The highest effect size was found to be the effect of both high uncertainty avoidance culture and PEU as both of them achieved a large effect on the boundary control system. Following that, collectivist culture has medium effect size on boundary system. Notably, we can see

from the above results that boundary system is the only control system that had been effected from all national culture dimensions as well as from PEU. This in turn explain the importance of such system to the Palestinian companies, which will be discuss later in the hypotheses section. However, the following section will discuss the predictive relevance (Q^2), which represents the ability of the structural model to predict.

5.8.3 Predictive Relevance of the Model (Q^2)

Predictive relevance (Q^2) is an another criteria to assess the quality of the structural model to predict (Chin, 2010). The assumption of predictive relevance is that the model must has an adequate ability to predict each endogenous latent variable's indicators (Hair et al., 2011). For that purpose, the blindfolding procedure has been applied to obtain Q^2 by calculating the cross-validity redundancy (cv-red) and cross-validity communality (cv-comm).

Blindfolding procedures will remove data from the data set based on a predetermined distance value called *D*. The *D* value can be any number between 5-10 (Chin, 2010). The only requirement is that the sample size *n* divided by *D* should be a round number. Thus, the assumption of removing amounts of data and then handle them as missing values will estimate the model parameters. However, blindfolding should only applied if the endogenous latent variables have reflective measurements (Hair et al., 2011; Henseler et al., 2009), which is the case of the current study.

As mentioned previously, predictive relevance (Q^2) has two forms: 1) cross-validity communality and 2) cross-validity redundancy. Hair et al. (2011) recommended using cross-validated redundancy as it estimates both the structural model and the

measurement model for data prediction, which is a perfect fit with the PLS-SEM approach. According Bagozzi's (1994) suggestion, if the value of cross-validity redundancy is above zero ($Q^2 > 0$), this indicates that predictive relevance while a value of Q^2 less than zero means that the model lacks predictive relevance. Table 5.21 shows the results of the predictive relevance of the endogenous latent variables.

Table 5.21
Predictive Relevance of the Endogenous Latent Variables

Construct	Validated Redundancy	Results
MCS	0.328	$Q^2 > 0$ Explanatory variable provides predictive relevance
Organizational learning	0.243	$Q^2 > 0$ Explanatory variable provides predictive relevance
Organizational performance	0.400	$Q^2 > 0$ Explanatory variable provides predictive relevance

Table 5.21 shows obvious that all cross-validity redundancies (Q^2) of the endogenous latent variables were above zero, which supports the claim that this study model has an adequate ability to predict.

5.8.4 Goodness of Fit of the Model (GoF)

Tenenhaus, Vinzi, Chatelin, and Lauro (2005), defined GoF as the global fit measure, it is the geometric mean of both the average variances extracted (AVE) and the average of R-square (R^2) of the endogenous variables. The purpose of GoF is to account on the study model at both levels, namely, the measurement and structural models, with a focus on the overall performance of the model (Chin, 2010; Henseler & Sarstedt, 2013). The equation 5.4 displays the formula for calculation of GoF.

$$GoF = \sqrt{(\overline{R^2} \times \overline{AVE})} \quad (5.4)$$

Wetzels et al. (2009) provided criteria of GoF to determine whether GoF values should be considered to be small, medium, or large as global valid PLS model. Table 5.22 below presents these criteria.

Table 5.22
GoF Baseline Criteria

GoF small	0.10
GoF medium	0.25
GoF large	0.36

According to the criteria in Table 5.22 above, the value of the GoF (0.616) in this study is large enough to provide sufficient global PLS model validity.

5.8.5 Hypotheses Testing (Path Coefficient)

The final step in evaluating the structural model is examining the research hypotheses through assessing the path coefficient. To achieve that end, the hypothesized relationship was examined by running bootstrapping. Bootstrapping is a procedure whereby a large number of subsamples (e.g., 5,000) are taken from the original sample with replacement to give bootstrap standard errors, which, in turn, provides approximate t-value for significance testing of the structural path.

Because PLS-SEM does not assume that the data are distributed normally, bootstrapping results estimate the normality of data. The reason for this is that the character of PLS-SEM is distribution-free. Consequently, PLS-SEM applies nonparametric bootstrapping, which represents the precision of PLS estimates. Accordingly, randomly repeated samples with replacements from the original sample will be created in order to obtain standard error to test the research hypotheses (Hair et al., 2011).

For that purpose, bootstrapping sampling process works under the assumption that the distribution of the sample is a reasonable representation of the intended population distribution. Therefore, a bootstrapping sample in PLS-SEM enables the estimated coefficient to be examined for significance. In general, applying the bootstrapping approach provides an estimate for the spread, shape and the bias of the sample distribution of a specific statistic (Henseler et al., 2009). The results of all bootstrapping samples in PLS-SEM, provide standard errors and t-values (t-tests) for each path coefficient model to measure the significance of such a path model relationship (Chin, 1998).

Based on that, bootstrapping analysis enables a researcher to test statistically the research hypotheses. However, the criteria to determine whether the assumed relationship is significant is based on the t-value. Commonly used critical values are 1.65 (significance level = 10%), 1.96 (significance level = 5%), and 2.57 (significance level = 1 %). When a study is exploratory in nature, researchers often assume a significance level of 10%. Ultimately, the choice of the significance level depends on the field of study and the study's objective (Sather, 2004). However,

Instead of t-values, researchers routinely report p-values that correspond to the probability of erroneously rejecting the null hypothesis, given the data at hand (Hair et al., 2011). The smaller the p-value the stronger the significance of the relationship will be. Table 5.23 shows the findings of the path coefficient used to test research hypotheses of the second order (main hypotheses).

Table 5.23
Path Coefficient of the Research Hypotheses – Second order

Hypo	Relationship	Std. Beta	Std. Error	T- value	P-value	Decision
H1	PEU→ MCS	0.444	0.123	3.612	0.00	Supported**
H2	NC → MCS	0.462	0.129	3.571	0.00	Supported**
H3	MCS → OL	0.568	0.130	4.373	0.00	Supported**
H4	OL → OP	0.573	0.091	6.323	0.00	Supported**

Notes: Significant level at ** = $p < 0.01$ and * $p < 0.05$.
Table abbreviations (PEU = Perceived environmental uncertainty, MCS = Management Control System, NC = National culture, OL = Organizational learning, and OP = Organizational performance).

However, in order to obtain an insight understanding about the relationship between PEU and MCS, this study performed further analysis to assess the path coefficient for each PEU dimension and MCS. A comprehensive understanding regarding the influence of each type of PEU included in this study (i.e., competitive, political, operational, and technological uncertainty), on MCS would assist in better MCS design. In other words, this would lead to an understanding of which dimension of PEU was given significance attention regarding MCS, and which of them received less attention in the Palestinian listed firms. To that end, Table 5.24 below display the path coefficients between PEU dimensions and MCS.

Table 5.24
Path Coefficient of the Research Hypotheses between PEU Dimensions and MCS

Hypo	Relationship	Std. Beta	Std. Error	t-value	P-value	Result
H1a	Competitive → MCS	0.242	0.133	1.819	0.038	Supported*
H1b	Operational → MCS	0.368	0.099	3.717	0.000	Supported**
H1c	Political → MCS	0.049	0.107	0.457	0.325	Not supported
H1d	Technological → MCS	0.057	0.134	0.425	0.337	Not supported

Note. Significance levels, ** p < 0.01 and * p < 0.05.

In addition, to the above hypotheses, this study performs further analysis to assess the path coefficient between PEU and each dimension of levers of control (i.e., beliefs, boundary, diagnostics, and interactive control). An insight understanding requires more detailed relationships investigation. As each lever of control components has its own characteristics. This in turn, lead to check which of those control systems was given the priority and which has been neglected in the context of the Palestinian listed firms. Table 5.25 below shows the path coefficients between PEU and each dimension of levers of control.

Table 5.25
Path Coefficient of the Research Hypotheses between PEU and each of Levers of Control

Hypo	Relationship	Std. Beta	Std. Error	t-value	P-value	Result
H1a	PEU → Beliefs system	0.484	0.169	2.860	0.00	Supported*
H1b	PEU → Boundary system	0.332	0.169	1.965	0.03	Supported**
H1c	PEU → Diagnostic control	0.347	0.200	1.731	0.05	Supported
H1d	PEU → Interactive control	0.294	0.183	1.611	0.06	Marginally supported

Note. Significance levels, ** p < 0.01 and * p < 0.05.

In addition to the sub association between PEU and levers of control as shown in previously in Table 5.25, this current study also further analysis to obtain an

insightful understanding about the relationship between national culture dimensions (i.e., collectivist culture, high uncertainty avoidance, and high-power distance) and each of levers of control components (i.e., beliefs, boundary, diagnostics, and interactive control).

A comprehensive understanding regarding the influence of each type of national culture included in this study on each levers of control would assist in better MCS design. Thus, assessing which national culture dimensions was given significance attention regarding MCS design and which of them received less attention in Palestinian listed firms is vital. To that end, Table 5.26 below presents the findings of the path coefficient between national culture dimensions and MCS dimensions.

Table 5.26
Path Coefficient of the Research Hypotheses – National Culture Dimensions and MCS Dimensions

Hypo	Relationship	Std. Beta	Std. Error	t-value	P-value	Results
H2-a	Uncertainty Avo. → Beliefs	0.219	0.270	0.812	0.21	Not Support
H2-b	Uncertainty Avo. → Boundary	0.649	0.137	4.735	0.00	Supported**
H2-c	Uncertainty Avo. → Diagnostic	0.376	0.205	1.838	0.04	Supported*
H2-d	Uncertainty Avo. → Interactive	0.442	0.233	1.893	0.03	Supported*
H2-e	Collectivist culture → Beliefs	0.108	0.180	0.600	0.28	Not Support
H2-f	Collectivist → Boundary	-0.292	0.169	1.732	0.05	Supported*
H2-g	Collectivist → Diagnostic	0.262	0.228	1.148	0.13	Not Support
H2-h	Collectivist → Interactive	-0.016	0.217	0.074	0.47	Not Support
H2-i	Power distance → Beliefs	-0.035	0.177	0.196	0.42	Not Support
H2-j	Power distance →Boundary	-0.126	0.133	0.944	0.18	Not Support
H2-k	Power distance→Diagnostic	-0.071	0.115	0.620	0.27	Not Support
H2-l	Power distance→Interactive	-0.124	0.146	0.850	0.20	Not Support

In addition to the direct relationships that have been examined in this study as shown earlier. The theoretical framework of this study has also indirect relationship that must be examined. This indirect association concern about the mediating role of the organizational learning between MCS and organizational performance. For that end, the next suction discusses the analysis part of this indirect relationship.

5.9 Testing the Mediation Relationship

The theoretical design of this study provides a unique opportunity to test whether organizational learning mediate the relationship between MCS and organizational performance. Baron and Kenny (1986) define the mediator as a variable that account for all or part of the relationship between a predictor and outcome. The predictor in this study is MCS while, the outcome is the organizational performance. Figure 5.2, presents the proposed mediating role of the organizational learning between MCS and organizational performance.

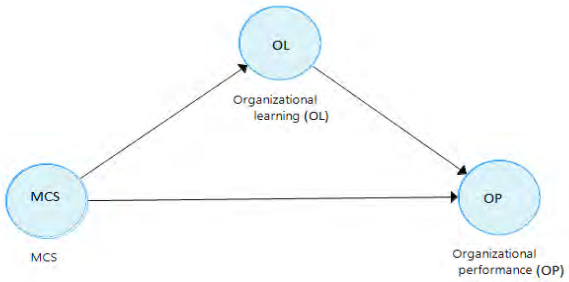

Figure 5.2
Mediating Role of Organizational Learning

Quantitative research analysis shows that two approaches exist for the analysis of a mediating variable. These are: 1) the Sobel test and 2) the is bootstrapping test. The Sobel test has some requirements or /and assumptions should be taken into account before the decision to use such method. These include: 1) the distribution assumption

does not hold for the indirect effect, 2) an unstandardized path coefficient is required, and 3) the sample size should not be small to avoid the lack of statistical power. Hence, Sobel's test requires the data to be distributed normally with a sufficiently large sample size (Mallinckrodt, Abraham, Wei, & Russell, 2006).

Conversely, in bootstrapping approach no need exists for the data to be normally distributed, in different words, free distribution assumption (Chin, 2010). Second, the bootstrapping approach is suitable for large and small sample sizes. Consequently, because PLS-SEM is a soft distributional assumption and also due to small sample size in the current study, the significance mediating relationship was examined by using bootstrapping procedure.

According to Mallinckrodt et al. (2006), "bootstrap methods are particularly useful for examining sampling distributions. These approaches treat the collected research sample as a 'population reservoir' from which a large number of random samples are drawn with continuous replacement such that the probability of selection for any given case remains equal over every random draw" (p. 373).

Bootstrapping, which is a nonparametric resampling approach, has been recognized as one of the more rigorous and powerful methods for testing the mediating effect (Shrout & Bolger, 2002). In addition, the application of bootstrapping for mediating analysis has recently been advocated by Hair et al. (2013) who noted that "when testing mediating effects, researchers should rather follow Preacher and Hayes (2008), and bootstrap the sampling distribution of the indicator effect, which works for simple and multiple mediator models" (p. 223). Furthermore, using the

bootstrapping approach is perfectly suited for PLS-SEM because the approach makes no assumption about the shape of the variables' distribution or the sampling distribution of the statistics and therefore can be applied to small sample sizes (Hair et al., 2013; Preacher & Hayes, 2008).

According to Preacher and Hayes (2008), which is considered to be the most modern reference regarding testing the mediator, the significance the relationship between the exogenous and the endogenous variables in the absence of the mediator no longer considered necessary. As a result, the total effect of MCS on organizational performance in the absence of the organizational learning as the mediator of this study does not have to be significant for the mediation to occur, which contrasts with Baron and Kenny (1986), who suggested that the exogenous should significantly effect endogenous in the absence of the mediator for the mediation to occur.

Nevertheless, although this study does not have problem with either point of view, the exogenous (MCS) significantly affect the endogenous (organizational performance) in the absence of organizational learning ($\beta = 0.771$, t- value = 10.363, $p < 0.000$) and that is the first step of the mediation analysis. Table 5.27 and Figure 5.3 introduce the findings of this direct relationship:

Table 5.27
Path Coefficient of The Relationship between MCS and Organizational Performance

Path *C*	**Std. Beta**	**Std. Err**	**T-Value**	**P-Value**	**Decision**
MCS → Organization Performance	0.771	0.074	10.363	0.000	Supported**

Notes: Significant level at ** = $p < 0.01$ and * $p < 0.05$.

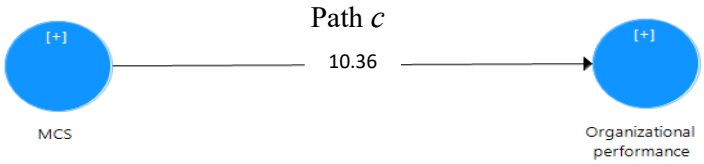

Figure 5.3 Direct Association Between MCS And Organizational Performance in the Absence of the Mediator Variable (Organizational Learning).

However, despite the fact that the exogenous variable of this study (MCS), significantly influenced the endogenous variable (organizational performance), in the absence of the mediator (organizational learning), another requirement must be considered with respect to the occurrence of mediation. When paths *a* & *b* are controlled, a previously significant direct relationship between the exogenous (MCS) and endogenous (organizational performance) chánges its value significantly (path *c*). Table 5.28 illustrate the results.

Table 5.28
Path Coefficient of The Relationship between MCS and Organizational Performance

Path *Ć*	Std. Beta	Std. Err	T-Value	P-Value	Decision
MCS→ Organization Performance	0.668	0.118	5.664	0.000	Supported**

Notes: Significant level at ** = $p < 0.01$ and * $p < 0.05$.

However, two additional necessary steps must be taken to analyse further the mediator. First, is calculating the bootstrapping of the indirect relationship between MCS and organizational performance via organizational learning, in different words, the t-value of the total effect (path *a* and path *b* together). To achieve that, researchers should calculate the sum of the standard beta (β) of (path *a* * path *b*) and then divide the result by the standard error of (path *a* * path b) (Hair et al., 2014). The formula to calculate the t-value of the indirect relationships is illustrated below:

$$\frac{\text{Standard beta of (path } a \text{ * path } b)}{\text{Standard error of (path } a \text{ * path } b)} \quad (5.5)$$

Thereby, calculating the bootstrapping (t-value) of the indirect relationship (path *an* and path *b*) between MCS and organizational performance via organizational learning, the t- value was found to be = 3.326 Consequently, the conclusion can be made that the relationship via organizational learning was significant with (β = 0.325, t = 3.326, p < 0.000).

The second step is to determine the extent to which the variance of the endogenous construct is directly explained by the exogenous one, and how much the endogenous construct is explained by the indirect relationship via the mediator (how much the mediator variable absorbs), stated in a different way, the value of VAF (Variance Accounting for) to determine the strength of this mediation. Consequently, if VAF value is less than 20%, the conclusion can made that no mediation takes place, whereas VAF value ranges between 20% to 80%, the result can be characterized as partial mediation. Finally, when the VAF is more than 80% full mediation is assumed (Hair et al., 2014).

According to Hair et al., 2014, for the purpose of calculating VAF, a researcher should:

1. Compute the sum of standard beta (β) for path *a* times the standard beta (β) for path *b.* (a * *b*)*;*

2. Add to the results of (a*b) the standard beta of path $\acute{c}$ ($a*b + \acute{c}$); and
3. Divide the first equation (a*b) by the results of the second equation as illustrated below:

$$\frac{\text{Standard beta of (path } a \text{ * path } b)}{\text{Standard beta of (path } a \text{ * path } b) + (\text{ path } \acute{c})} \quad (5.5)$$

As illustrated in the above formula, the value of VAF determining the strength of the mediator in this relationship was found to be 32.72%, which is more than 20% and that means partial mediation takes place (Hair et al., 2014). Table 5.29 illustrates the results of the mediating variable of this study:

Table 5.29
Results of the Indirect Relationship between MCS and Organizational Performance Via Organizational Learning (Bootstrapped Confidence Interval)

Std. Beta Path *a*	Std. Beta Path *b*	Indirect Effect	Std. Err	t-value	p-value	VAF	Result
0.568	0.573	0.325	0.098	3.326	0.000	32.72%	Partial mediation

5.10 Chapter Conclusion

Based on the data from the Palestinian listed firms, this study performed an analysis using both SPSS Version 22 and Smart-PLS Version 2. SPSS was used for the purpose of descriptive analysis, while Smart-PLS was used to examine the reliability

and the validity of the data as well as to test the research hypotheses. For that purpose, two-stage of data analysis was conducted. The first-stage was the measurement model (outer model) that examined both convergent validity and discriminant validity in order to assure the association between various constructs and their indicators, and, therefore, confirmed the validity and the reliability of the study measurements.

The second-stage was conducted by using the bootstrapping procedures on the structural model (inner model) to test the extent to which the hypothesized relationships were supported or not.

Finally, the mediating role of the organizational learning between MCS and organizational performance (H5) has also examined, and the findings support the role of organizational learning as mediator for this study. A discussion about the possible reasons, justifications and the impacts of the supported and the not supported hypotheses will be discussed in the following chapter which also discuss the, limitations, contributions, recommendations and conclusion of the current study.

CHAPTER SIX
DISCUSSION AND CONCLUSION

6.1 Introduction

This final chapter is designed to recapitulate the study, discuss the findings and highlight the contribution of the study to the existing literature. It also highlights the managerial contributions that directed to help the decision-makers. This chapter reviews the limitations of the study and suggests future research avenues based on the limitations. Finally, this chapter summarizes and concludes the study.

6.2 Summary of the Study

Based on the motivation of this study presented in the problem statements in the first chapter and the comprehensive review of the existing literature, a theoretical framework was developed to examine the relationship between MCS and its antecedent factors, organizational learning and the organizational performance. Consequently, by examining the proposed relationships, this study achieved its purpose. Essentially, the aim of this study was to investigate the influence of PEU and national culture on MCS design. Additionally, this study was conducted to assess whether organizational learning mediate the relationship between MCS and organizational performance.

The perceptions of the top management of the Palestinian listed firms were the source of the data to test the research model and the hypothesized relationships. To assure the reliability and validity of the study model, all recommended processes aiding in confirming the goodness of the research model such as convergent validity and discriminant validity were performed (Hair et al., 2013). Accordingly, the

findings show that the model successfully passed all reliability and validity tests, which allowed the study to proceed with hypotheses testing, based on that, the following sections discuss the finding in the sequences of research objectives.

6.3 Perceived Environmental Uncertainty and Management Control System (H-1)

In order to achieve the first objective of this study, which was to examine the influence of the PEU on MCS design, the researcher developed one main hypothesis and another eight sub hypotheses. The main hypothesis (H1) was concerned with the influence of PEU on MCS. Four out of the sub hypotheses (H1-a to H1-d) was concerned about the relationships between PEU dimensions (i.e., competitive, operational, political, and technological uncertainty) and MCS, whereas the rest sub hypotheses (H1-e to H1-h) was concerned with the association between PEU and each dimension of levers of control (i.e., beliefs, boundary, diagnostic and interactive control). Hence, this section will discuss the main hypotheses first. Following that the sub hypotheses will also take place.

Hypothesis H1, which states “There is a positive significant association between PEU and MCS design”, was examined by using the PLS-SEM bootstrapping approach. Empirical results of PLS-SEM indicated that the proposed relationship between PEU and MCS was highly significance at (β = 0. 0.444, t = 3.612, p < 0.000), and thus H1 was supported (refer to Table 5.23).

This result aligns with the findings of with several previous related studies grounded in contingency theory that examined this relationship such as (Janke, Mahlendorf, & Weber, 2014; Al-Mawali, 2015; Hammad, Jusoh, & Ghozali, 2013;

Khandwalla,1972; Govindarajan, 1984; Chenhall & Morris, 1986; Anderson & Lanen, 1999; Waweru et al., 2004; Janke et al., 2014; Widener, 2007). The basis of this relationship is that the more the companies face environmental uncertainty the more emphasis they will place on MCS to confront such uncertainties (Al-Mawali, 2015; Kattan et al., 2007; Simons, 2013).

In fact, companies can enhance their performance by assessing the extent to which the level the uncertainty influence their performance and then adjust their MCS, which is the vital role of contingency theory in designing effective and up-to-date control environment (Janke, Mahlendorf, & Weber, 2014; Al-Mawali, 2015; Kattan et al., 2007). In this context, environmental uncertainty should be evaluated objectively, which means assessing the existence of uncertainty based on deep evaluation instead of on the perceptions of managers. With respect to this point, Khandawella (1972) and Gul (1991) cautioned about either magnifying or underestimating an interpretation of the existing uncertainty because magnifying could lead to designing a sophisticated control mechanism that may do harm than good whereas underestimating the impact of uncertainty may lead to a weak response, which might impair organizational performance.

For the purpose of uncertainty evaluation, managers should be provided with reliable and valid information because quick response to any potential uncertainty depend upon the information availability (Chenhall & Morris, 1986; Gul & Chia, 1994). Thus, MCS designers, especially in the uncertain environment such as Palestine, should design their MCS with respect to collect the most relative and reliable information to assist in confronting the surrounding uncertainties.

However, in order to obtain an insight understanding about the relationship between PEU and MCS, this study performed further analysis to assess the path coefficient for each PEU dimension and MCS. A comprehensive understanding regarding the influence of each type of PEU included in this study (i.e., competitive, operational, political, and technological uncertainty), on MCS would assist in better MCS design. In other words, this would lead to an understanding of which dimension of PEU was given significance attention regarding MCS, and which of them received less attention in the Palestinian listed firms. To that end, the following sub sections illustrate the findings and the discussion regarding the association between each dimension of PEU and MCS (H1-a to H1-d).

6.3.1 Competitive Uncertainty and Management Control System (H1-a)

In order to test the relationship between competitive uncertainty and MCS, the researcher develop Hypothesis H1-a, which states that, "There is a positive significant association between competitive uncertainty and MCS design". The results of the PLS-SEM bootstrapping approach point out a positive significant association between competitive uncertainty and MCS at ($\beta = 0.242$, $t = 1.819$, $p < 0.038$). (refer to Table 5.24).

This accepted association between competitive uncertainty and MCS aligns with previous research grounded in contingency theory (e.g., Behara & Gundersen, 2001; Duclos, Sih, & Lummus, 1995; Fuadah, Nasir, & Isgiyarta, 2014; Gustafsson & Johnson, 2004; Gustafsson, Nilsson, & Johnson, 2003; Sakakibara, Flynn, Schroeder, & Morris, 1997; Sohal, Schroder, Uliana, & Maguire, 2001; Wallace, 2013; Widener, 2007).

The finding of the current study confirms the basic premise of the contingency theory, which states that an organization will be more effective if the MCS is designed in accordance with contextual factors such as environmental uncertainty as an example of the competitive uncertainty (Simons, 1990; Widener, 2007; Khandawella, 1972; Fuadah et al., 2014). Thus, competitive uncertainty is a powerful contingent variable in the process of MCS design.

As market competition that faced by any company has two form include: price competition and innovation competition or both together, MCS should be designed in a way that can recognize which kind of market competition the company facing. This can be done by design MCS to collect the most reliable and valid data in the right time and distribute it for the right persons.

As a result, if the company facing intense price competition, this should lead to design MCS with respect to product and/or services cost. Cost calculation and control in this case is vital as such competition is about the cost and the determine price. Hence, neglecting price competition might be destroying because once a firm start cutting prices, others must follow suit, and there is little an individual organization can do about it, and even a small cut in price can amount to large losses for the organizations in the industry (Khandwalla, 1977). This in turn, require the companies to fully adapt the premise of contingency theory in designing their MCS.

However, also innovation competition require effective MCS. Indeed, the increasing level of innovation and Nano technology worldwide strongly brought this kind of competition to the market place. This in turn, can be faced by designing MCS in a

way to stimulate and build organizational learning. In fact, building organizational capabilities as an example of organizational learning can equip the company and its members to be more skilled and competent to response quickly and accurately to such kind of competition.

Hence, innovation competition as an example of competitive uncertainty requires using different type of control system with more emphasis on the modern techniques. For example, companies should design an effective beliefs control system. A belief system is used to communicate the core values of an organization in order to inspire and motivate its members to search, initiate, create, explore, and expand their efforts to engage in useful and appropriate actions. Hence, this kind of control system should be directed toward pumping the firm with need positive energy to come up with new innovations and ideas that matter in facing brains competition.

However, the most difficult and threating competitive uncertainty that might be faced by any company, is when these two types of market competition hitting together (i.e., price and innovation compaction). In this case, (which could be the case of all industries that fully depend on technology in providing their products and /or services), a carful design of MCS is vital. Companies in this case must ensure that their MCS has the ability to build and sustain tangible and intangible competitive advantage. One of the intangible competitive advantage that the MCS must build is the internal consistency between organizational members and departments, which in fact might be the determinate of company survival and growth. This internal consistency will lead to more cooperation and coordination between organization members and department in the way to face the surrounding competition. Therefore,

MCS and under the pressure of competitive uncertainty should be design in a way to establish effective communication channel to ease Information sharing that is fundamental for decision making. Accordingly, the findings of the current study are consistent with the management accounting literature that an organization should use more management accounting information to be effective in today's global competition (e.g., Cooper, 1987; Cooper & Kaplan, 1988; Kaplan, 1984; Kaplan & Johnson, 1987; Porter, 1979).

In conclusion, MCS design is contingent upon the circumstances in which an organization operates and functions as was confirmed by this current study as well as the previous studies (Chapman, 1997; Chenhall & Morris, 1986; Fisher, 1995, 1998; Gordon & Narayanan, 1984; Khandwalla, 1972; Otley, 1980; Hoque, 2011; Otley, 2012; Fuadah et al., 2014), this in turn, require the companies to fully adapt the premise of contingency theory in designing their MCS to deal effectively with surrounding challenges and uncertainties. Therefore, Palestinian companies that face an increased level of competitive uncertainty should deal with such uncertainty by increasing the use of MCS procedures and design their control systems in accordance with the existing level of the environmental uncertainty.

6.3.2 Operational Uncertainty and Management Control System (H1-b)

Operational uncertainty is another PEU dimension that was investigated with respect to MCS in the Palestinian firms. To that end, the researcher developed Hypothesis H1-b, which states that, "There is a positive significant association between operational uncertainty and MCS design." The outcome of the PLS-SEM bootstrapping analysis shows that a positive significant association between

operational uncertainty and MCS, at ($\beta = 0.368$, $t = 3.717$, $p < 0.000$), (refer to Table 5.24).

The findings are theoretically consistent with previous contingent-based research (Galbraith, 1973; Simons, 1991, 2000; Chenhall, 2003; Hoque, 2011; Otley, 2012; Fuadah et al., 2014; Wallace, 2013; Bisbe & Otley, 2004), who demonstrated a direct significant association between PEU and MCS. In particular, the present study gives evidence to the empirical findings of Widener (2007), who reported a positive and significant association between operational uncertainty and MCS. Operational uncertainty has been considered to be a critical antecedent of MCS. This finding suggested that companies in order to design an efficient MCS should account for the operational uncertainty level, a conclusion that this current study supports.

Hence, operational uncertainty in the Palestinian companies is a factor determining the design of MCS used by a company based on the contingency theory (Chenhall, 2003; Ezzamel, 1990; Gordon & Miller, 1976). Accordingly, this result indicates that as operational uncertainty increases greater emphasis will be placed on MCS in Palestinian firms.

However, this research was concerned with measuring three categories of the aspect of operational uncertainty. These categories included: 1) the uncertainty regarding increase of productive capacity, product breadth and product depth, 2) input costs and internal product enhancement, and 3) the diffusion of property knowledge outside the organization.

Aside from the fact that Israeli occupation controls the borders and sea port and there is no airport, the Palestinian market is isolated from the global one, which has caused the restriction of some raw materials and/or products coming from foreign markets to enter the Palestinian market and this restriction is one of the obstacles to operational processes. Furthermore, the occupation has prevented Palestinians from benefiting or accessing to their land and most of their natural resources, which causes all of the previous operational uncertainty aspects to arise. Finally, the third category of the operational uncertainty aspect is concern about diffusion of property knowledge outside the organization.

Descriptive analysis of the research variables revealed that the mean score of operational uncertainty (m = 4.24) was the strongest among PEU dimension, (refer to Table 5.7). This significant attention to the operational uncertainty might be the result of many obstacles that impede operational activities in Palestine as discussed previously, which require high management attention.

For example, the second highest mean score of the operational uncertainty items was given to the attention of increasing productive capacity (m = 4.30). Increasing productive capacity in Palestine is a difficult management task due to many external obstacles and challenges including: Israeli military checkpoints that impede the movement of the raw material, frequent closures, the control of Palestine borders by Israeli occupation, and the fluctuation of raw material entry among others. These contingent factors give rise to operational uncertainties. Furthermore, restrictions imposed by Israeli occupation on advanced technology also hinder Palestinian

companies from improving their production capacity and that also contributes to creating operational uncertainty, which will be discussed in section 6.3.4 below.

However, the findings give evidence about the importance of operational uncertainty in designing effective MCS in Palestine companies, which again stresses the fundamental role of the contingency theory in the context of MCS design (Galbraith,1973; Chenhall, 2003; Hoque, 2011; Otley, 2012; Fuadah et al., 2014; Wallace, 2013), in order to design an effective control environment.

6.3.3 Political Uncertainty and Management Control System (H1-c)

Political uncertainty is another PEU dimension examined by this current study for its influence on MCS in Palestinian listed firms. Hypothesis H1-c, which states "There is a positive significant association between political uncertainty and MCS design", was developed to test this association. The statistical results of the PLS-SEM bootstrapping approach showed no significant association between political uncertainty and MCS in Palestinian companies at ($\beta = 0.049$, $t = 0.457$, $p < 0.325$), (refer to Table 5.24).

The results from this study provide support for as well as contrasts to the extant literature. This present study contrasts Kattan et al. (2007) who showed that during high levels of political uncertainty, the budgeting system was closer to being organic while in low levels of political uncertainty the budgeting system moved towards a more mechanistic approach. In different words, changes in the external political environment in terms of external contingency factors are associated with changes in MCS. However, it should be noted here that the study of Kattan et al. (2007) has

many limitations that might justify the current result including the recall of events occurring some years previously and the difficulty of generalizing the results of a case study beyond the context in which it is studied. Furthermore, the study was conducted in a private company in which the owners represented the management and this could quicken the response to the external political changes because of high level of flexibility associated with such private management as compared to public companies that are governed through multiple layers.

Relative to the existing literature and given the analogy and empirical evidence in Ojra (2014) concerning the association between PEU, organizational performance and organizational management accounting, it seems right to conclude that this present study's findings, environmental uncertainty does not influence MCS, connects with Ojra (2014). Indeed, Ojra (2014) concluded that higher environmental uncertainties did not lead to the greater usage of strategic management accounting techniques in Palestinian companies. He reported that higher levels of PEU would lead to lower usage of the management accounting techniques in Palestinian companies.

Understanding the results of this study and why Palestinian managers did not given appropriate attention to the influence of the political uncertainty on MCS design, required a deep review to the literature of the political uncertainty dominating Palestine since 1948 (Smith, 2013). Palestinian literature reveals that living under such long-term occupation and uncertainty has resulted in different side effects (Abed, 2015; Baker, 1990, 1991; Dana & Walker, 2015; Perez, 2015; Rouhana & Bar-Tal, 1998; Shehadeh, Loots, Vanderfaeillie, & Derluyn, 2015).

Based on the previous study, one of those side effects are changes to the mentality and behaviour of the Palestinian people (Abed, 2015; Baker, 1990, 1991; Dana & Walker, 2015; Perez, 2015; Rouhana & Bar-Tal, 1998; Shehadeh, Loots, Vanderfaeillie, & Derluyn, 2015). Palestinians, after decades under the occupation, consider this kind of uncertainty as a normal lifestyle. Living under the same kind of uncertainty (political uncertainty) for almost seventy years (69 years as of 2017) has influenced Palestinians managers so that they give less attention to political uncertainty and give more attention to other kinds of PEU such as competitive and operational uncertainty.

Palestinians managers believe that giving attention to what can be controlled (e.g., competitive and operational uncertainty), is better than giving their attention to what is out of their control (i.e., political uncertainty). Hence, the Palestinian people consider political uncertainty to be something out of their control situation due to its complexity and long- term existence. As a result, Palestinian companies prefer to focus on controlling what can be controlled instead of wasting their time on monitoring and controlling what is out of their control (i.e., political uncertainty).

In conclusion, as most of the previous contingent based research conclude that environmental uncertainty, regardless its type and source, comprise the design parameters of MCS with respect to inequality effect between different types and sources of those uncertainties (Chenhall & Moers, 2015; Chenhall & Morris, 1986; Fisher, 1995, 1998; Heinicke, Guenther, & Widener, 2016; Nguyen, Mia, Winata, & Chong, 2016; Otley, 1980, 2012). Accordingly, Palestinian companies and dur to the influence of the long-term political uncertainty on the mentality and behaviour of the

people contrast the basic concept of the contingency theory by neglecting the influence of such long term political uncertainty on their MCS design.

6.3.4 Technological Uncertainty and Management Control System (H1-d)

The final perceived environmental uncertainty dimension that was examined on MCS design in the Palestinian listed firms was technological uncertainty. For that purpose, Hypothesis H1-d, which states "There is a positive significant association between technological uncertainty and MCS design", was designed to test this relationship. The statistical results of the PLS-SEM bootstrapping approach showed no significant association between technological uncertainty and MCS in the Palestinian companies at ($\beta = 0.057$, $t = 0.134$, $p < 0.425$), (refer to Table 5.24). This result was not surprising because it aligns with the findings of Widener (2007), who found no relationship between technological uncertainty and MCS. Furthermore, this empirical result also is in line with the Palestinian context.

To gain a better understanding the results of the present study and why no significant association between technological uncertainty and MCS was found, a review of the Palestinian context is important. First of all, understanding how technological uncertainty appears is fundamental. Technological refers to how the firm's work processes operate (the way tasks transform inputs into outputs) and includes hardware (such as machines and tools), materials, people, software and knowledge (Chenhall, 2003).

Technological uncertainty arises as a result of technology differences between competitors (Simons, 1990; Khandawella, 1977). Thus, technological differences between companies creates technological uncertainty. For example, when a

competitor adopts advanced technology, this adoption usually improves product and/or service quality, decreases production cost, and increases productivity, among other things, which influences the competitive position of a firm that adopts advanced technology first. This, in turn, give rise to technological uncertainty due to this technological gap between companies.

In the Palestinian case, advanced technology is under Israel control because Israeli occupation forces control Palestinian borders. This control has resulted in many obstacles that face the Palestinian companies regarding technology adoption (Palinfo, 2015). As a result, all Palestinian firms face similar restrictions and obstacles regarding advanced technology, which makes all of them at the same level of the adopted technology.

For example, all Palestinian telecommunication companies are not allowed to operate third generation (3G) devices, and they still use the second generation, although the world has moved towards the fourth generation (4G). As a result, all Palestinian telecommunication companies suffer from operational uncertainty due to the restrictions imposed by the Israeli government. As a result, all Palestinian companies operate under the same technological level (Palinfo, 2015).

However, although previous research grounded in contingency theory recommended matching between PEU and MCS design (Chenhall, 2003; Fuadah et al., 2014; Galbraith, 1973; Hoque, 2011; Otley, 2012; Wallace, 2013), the case of the Palestinian companies is different. In Palestine, the Israeli government has introduced rules and regulations to kill the economy (Naqib, 2003). By contrast, the

empirical results of the present study revealed that, if existing uncertainties such as political and technological uncertainty have been created by the Israeli government, Palestinian companies prefer to neglect these uncertainties and give their attention to their side effects.

For instance, technological uncertainty creates operational uncertainty, and as a such, Palestinian managers prefers to focus their attention on operational uncertainty instead of focusing on technological uncertainty because technology uncertainty is out of their control. In conclusion, Palestine managers consider technological uncertainty a difficult control task due to Israeli rules and procedures imposed on advanced technology, a conclusion that the empirical findings of this study have proven.

However, for deep understanding about the relationship between PEU and levers of control, this study performed further exploration to examine the path coefficient between PEU and each dimension of MCS (i.e., beliefs, boundary, diagnostics, and interactive control). A comprehensive analysis regarding the influence of PEU on each type of levers of control would assist understand the preference toward levers of control components. In different words, which of those control systems has given a significant attention under the pressure of PEU and which of them has attention in the context of Palestine. For that end, another four sub hypotheses (H1-e to H1-h) were examine by using bootstrapping approach and the results are discussed in the following sections.

6.3.5 Perceived Environmental Uncertainty and Beliefs Control System (H1-e)

For the purpose of testing the relationship between PEU and beliefs control system, the researcher develops Hypothesis H1-e, which states that, "There is a positive significant association between PEU and beliefs control system". According to the results of the PLS-SEM bootstrapping approach this association was supported in the context of the Palestinian listed firms at (β = 0. 482, t = 2.962, p < 0.003). (refer to Table 5.25).

This accepted association between PEU and beliefs control system aligns with previous research grounded in contingency theory (Simons, 1994; Widener, 2007). Firms use the beliefs system to manage uncertainty since such kind of control system help ensure the alignment of employee behaviour, which minimizes the possibility that the organization can be harmed. Empirical research suggests that this control system is beneficial in managing and confronting different type of environmental uncertainty such as operational, competitive, and technological uncertainty in addition to the strategic uncertainty (Widener, 2007).

Hence, companies use this kind of control to confront the surrounding uncertainties to ensure survival and growth. Strong beliefs systems are intended to counteract undesirable behaviour and minimize the negative behavioural effects associated with environmental uncertainty. Hence, beliefs system has the ability to provide direction for the organization, which fundamental task in managing and controlling the surrounding uncertainties that surrounding Palestinian companies. In line with this point view, Simons (1995, p. 34) described beliefs system as "the explicit set of organizational definitions that senior managers communicate formally and reinforce

systematically to provide basic values, purpose, and direction for the organization" (p. 34).

In addition, Simons' (1994) case study shows that when organizations face uncertainty the beliefs system is important for communicating the vision and core values. Accordingly, Palestinian companies that face high level of environmental uncertainty must use and design their beliefs system to communicate the core values of an organization in order to inspire and motivate its members to search, initiate, create, explore, and expand their efforts to engage in useful and appropriate actions. This positive energy of beliefs system is vital during environmental uncertainty to ensure survival and growth of the organizations. Thus, effective control system depends upon the premise of contingency theory that strongly suggested to design MCS based on the contingent factors in which it operates and function.

6.3.6 Perceived Environmental Uncertainty and Boundary Control System (H1-f)

Boundary control system is the second dimension of levers of control that have been examined under the pressure of environmental uncertainty in the context of the Palestinian listed firms. To that end, the researcher developed Hypothesis H1-f, which states that, "There is a positive significant association between PEU and boundary control system." The outcome of the PLS-SEM bootstrapping analysis shows that a positive significant association between PEU and boundary system at ($\beta = 0.332$, $t = 1.965$, $p < 0.03$), (refer to Table 5.25).

This accepted positive association between PEU and boundary system is harmonized with previous research grounded in contingency theory, that confirmed a positive and significant influence of PEU on the boundary system (Bromwich, 1990; Chenhall, 2003; Khandwalla, 1972; Merchant, 1990; Mia & Clarke, 1999; Simons, 1994; Widener, 2007). For instance, Merchant (1990) finds that profit centre managers are more likely to manipulate earnings when conditions are uncertain implying that the likelihood of engaging in unethical acts is higher in environments characterized by uncertainty.

Similar to the finding of the current study, related research grounded in contingency theory finds that firms relying on formal rules and procedures that embedded in boundary system when facing environmental uncertainty (e.g., Chenhall, 2003), operational uncertainty, technological (Widener, 2007), market competition (Bromwich, 1990; Khandwalla, 1972; Mia & Clarke, 1999; Widener, 2007), uncertainty and environmental hostility (Otley, 1978). Chenhall (2003, p. 138) summarizes this stream of literature by saying "hostile and turbulent conditions appear, in the main, to be best served by a reliance on formal controls...". Thus, the more the firms face uncertainty is positively associated with the emphasis they place on boundary system.

Effective boundary system in this case is prepared to counteract undesirable behaviour and lessen the negative behavioural effects associated with surrounding uncertainties. Moreover, boundary system is responsible to set the most accurate limits and constraints to keep the positive energy of beliefs systems under control. Simons' (1994) in his case study shows that when organizations face strategic

change and uncertainties the beliefs system is important for communicating the vision and core values while the boundary system delineates the appropriate area for pursuing opportunities. Accordingly, Palestinian companies that face high level of environmental uncertainty use boundary system to a great manner to protect and control their organization from surrounding uncertainties.

6.3.7 Perceived Environmental Uncertainty and Diagnostic Control System (H1-g)

Moving toward the association between PEU and diagnostic control system, the researcher developed Hypothesis H1-g, which states "There is a positive significant association between PEU and diagnostic control system". The statistical results of the PLS-SEM bootstrapping approach showed significant association between PEU and diagnostic control system in Palestinian companies at ($\beta = 0.347$, $t = 1.731$, $p < 0.05$), (refer to Table 5.25).

This accepted association between PEU and diagnostic control system aligns with previous research grounded in contingency theory (Simons, 2000, Kattan et al. 2007; Widener, 2007). Firms use diagnostic control systems to manage and control uncertainty side effect (Galbraith,1973; Simons, 2000). Diagnostic control systems facilitate gathering and distribute information throughout the firm, which is a vital task in the case of environmental uncertainty to take sound decisions (Chenhall, 2003; Chenhall & Morris, 1986; Kattan et al., 2007). Hence, firms that face uncertainty such as the Palestinian companies must design its diagnostic system in a way that can assist in processing the most relevant and reliable information at the appropriate time.

In the other hand, and in order to reduce the information processing burden for top managers, decision rights can be delegated throughout the organization (Galbraith, 1973). Performance measures embedded in a diagnostic control system then provide direction to these empowered employees, which help ensure that their behaviours aligned with organizational goals. Furthermore, diagnostic controls facilitate information processing through the provision of exception reporting (Widener, 2007). In the face of uncertainty, the need to process information can become significant. This assumption has encouraged Widener, (2007) to investigate the impact of operational uncertainty on MCS design. She found that, operational uncertainty has large effect on diagnostic control systems. Thus, diagnostic control system provides a great solution in case of uncertainty, that dominating Palestinian environment, by providing the most relative information in the right time.

6.3.8 Perceived Environmental Uncertainty and Interactive Control System (H1-h)

The final levers of control dimension that was examined under the pressure of PEU in the Palestinian listed firms was interactive control system. For that purpose, Hypothesis H1-h, which states "There is a positive significant association between PEU and interactive control system", was designed to test this relationship. The statistical results of the PLS-SEM bootstrapping approach showed marginally significant association between PEU and interactive control system in the Palestinian companies at ($\beta = 0.294$, $t = 1.611$, $p < 0.06$), (refer to Table 5.25).

Although the result was marginally accepted as the p-value lees than 0.10, the results from this study aligns with previous research grounded in contingency theory (Bisbe & Otley, 2004; Kattan et al. 2007; Simons, 1990; Widener, 2007) who concludes

that, an interactive control system is used by top management to engage personally in monitoring threats and capturing opportunities in order to survive. For example, Bisbe and Otley (2004) argue that firms can have higher performance in the case of uncertainty if they use control systems interactively. In addition, Simons (1990) concludes that, an interactive control system is used by top management to set agendas to confront uncertainty. Furthermore, Simons (1991) found that uncertainty originating from market competition is associated with the use of interactive control system.

In fact, firms that that do not modify its interactive control during uncertainty time, may miss the opportunity to scan the external environment in order to rapid its response to tackle environmental uncertainties. Effective interactive control can assist the top management to gather the most reliable and vailed information in the right time, since such interactive control are used to focus attention on the constantly changing information that top-level managers consider to be of strategic importance (Bisbe & Otley, 2004).

As interactive control characterizes as senior managers strong level of involvement. Palestinian top managers pay frequent and regular attention to interactive control systems, and get personally involved in them, especially during uncertainty. Furthermore, this pattern of attention signals the need for all organizational members to pay frequent and regular attention to the issues addressed by the interactive control systems. Through interactive control systems, top managers send messages to the whole organization in order to focus attention on surrounding uncertainties.

Consequently, interactive control systems place pressure on middle managers of the organization, and motivate information gathering, face-to-face dialogue and debate. As participants throughout the organization respond to the perceived opportunities and threats, organizational learning is stimulated, new ideas flow and strategies emerge (Bisbe & Otley, 2004). In this way, interactive control systems guide the organization breakthrough uncertainties by providing the most relative information that can make difference in decision making (Bisbe & Otley, 2004).

In conclusion, interactive use of MCS has a vital role during uncertainty to come up with new strategies and plans. Accordingly, interactive control systems contribute to fostering the development of initiatives that are successfully transformed into enhanced performance. Once, again the finding of the current study stress the fundamental concept behind contingency theory in designing effective MCS based on the surrounding contingent factors.

6.4 National Culture and Management Control System Design

For the purpose of achieving the second objective of this study, which was to examine the influence of the national culture on MCS design, the researcher developed one main hypothesis (H2) and another twelve sub hypotheses (H2-a to H2-l). The main hypothesis (H2) was concern with the total influence of national culture on MCS design whereas, the twelve sub hypotheses categorize in three main groups. The first one (hypotheses H2-a to H2-d) were concerned with the association between high uncertainty avoidance culture and each dimension of levers of control (i.e., beliefs, boundary, diagnostics, and interactive control) whereas, the second group (hypotheses H2-e to H2-h) were concern about the influence of the collectivist

culture on levers of control dimensions. Finally, the third group (hypotheses H2-i to H2-l) were concern about the association between high power distance culture and each of levers of control dimensions. However, the main hypotheses will discuss firs. Following that each group of the sub-hypotheses will discuss separately.

The main Hypothesis H2, which states "There is a positive significant association between national culture and MCS design", was examined by using the PLS-SEM bootstrapping approach. Empirical findings of PLS-SEM indicated that the proposed relationship between national culture and MCS was significant at ($\beta = 0.462$, $t = 3.571$, $p < 0.00$), which supported the claim that national culture influences MCS design, (refer to Table 5.23).

This finding provides evidence and support to the previous research grounded in contingency theory (e.g., Chow et al., 1999; Dik, 2011; Harrison & McKinnon, 1999; Jwijati & Bititci, 2014; Suh, 2016; Ueno & Wu, 1993; Van der Stede, 2002; Van Everdingen & Waarts, 2003), who reported a positive association between national culture and MCS design. Thus, national culture is considered to be an important antecedent factor for MCS, and as a such, management accountants and controllers should pay proper attention to the national culture characteristics in which control system will operate and function.

The theoretical background of this research embraces contingency and culture theories. Contingency theory clarifies the association between national cultural characteristics and the implemented MCS techniques, particularly with respect to the sophistication level of the reporting and control systems. In fact, cultural studies help

explain the influence of individual characteristics on MCS practice. For example, these include collective decision-making, verbal communication, relatively short-term planning, information exchange, and centralization, in connection with Arab cultural attitudes, beliefs, thinking, and interactions (Dik, 2011).

The empirical results of this research indicate that the existing MCSs in Palestinian listed firms are influenced and shaped by the specific cultural values of the Arab World. Thus, the current study examines these cultural values and their interactions with the mechanisms, processes, and operations of Arab MCS for better control system design. As a result, Arab culture is an important contingent variable in designing an effective control environment in the Palestinian companies.

Consequently, the characteristics of Arab culture influenced the MCS of the Palestinian companies in terms of procedures, participation, priorities, communication channels, relationships between superiors and their subordinates, and performance evaluation, among others. Hence, this empirical study explains the general understanding of MCS in the Arab World.

Thus, this study demonstrates the impact of national culture on MCS design and answers the questions of whether and how differences in national culture give rise to differences in the philosophies and approach of MCS design. These answers are important because importing or exporting control mechanisms across cultures without adequate adjustments is fraught with risk as each nation has its own particular culture (Merchant et al.,1995), which influences that nation's preferences and reactions toward management control (Adler, Doktor, & Redding, 1986; Chow

et al., 1991; Hofstede, 1980, 1991; Merchant et al., 1995; Vance, McClaine, Boje, & Stage, 1992). Consequently, importing control techniques from the Western countries, as the source of modern control practices must be adjusted to the national culture in which it operates and functions.

However, in order to obtain an insightful understanding about the relationship between national culture and MCS, this study performed further exploration to examine the influence of each national culture dimensions (i.e., high uncertainty avoidance, collectivist culture, and high power distance) on each dimension of levers of control (i.e., beliefs, boundary, diagnostics, and interactive control). A comprehensive understanding regarding the influence of each type of national culture included in this study on each dimension of levers of control would assist in better understanding of how Arab culture influence MCS. Thus, assessing which national culture dimensions was given significance attention regarding MCS design and which of them received less attention in Palestinian listed firms is vital to achieve the second objective of the current study. To that end, the following sub-sections illustrate this issue.

6.4.1 High Uncertainty Avoidance Culture and Levers of Control

This section discusses the finding of the hypotheses (H2-a to H2-d) that concern about the influence of high uncertainty avoidance culture on each dimension of levers of control (i.e., beliefs, boundary, diagnostics, and interactive control). Accordingly, the following sub-sections discuss each relation separately.

6.4.1.1 High uncertainty avoidance culture and beliefs control system (H2-a)

For the purpose of testing the relationship between high uncertainty avoidance culture and beliefs control system, the researcher develops hypothesis H2-a, which states "There is a positive significant association between high uncertainty avoidance culture and beliefs control system". The empirical finding shows that the path coefficient from the uncertainty avoidance culture to beliefs control system was not statistically significant at ($\beta = 0.219$, $t = 0.812$ $p < 0.21$), (refer to Table 5.26).

In fact, as this is the first study to examine the influence of high uncertainty avoidance culture on beliefs control system, it's difficult to relate the result of the current study to the previous one. However, in order to understand the result reviewing the characteristics of high uncertainty avoidance culture as well as the essence of beliefs control system is fundamental. Societies with a high level of uncertainty avoidance such as Palestinian are wary `of their future (Hofstede et al., 2010). They believe that uncertainty is inherent in their life, which represents a continuous source of threat that must be countered. Therefore, such societies adhere to strict laws, rules, security, safety, less participation, and preference for rule-based behaviour. In addition to that, an autocratic style of management and control is found in their organizations because they believe in absolute truth as the only ways to confront uncertainty (Hofstede & Bond, 1988; Hofstede & Hofstede, 2004; Hofstede et al., 2010).

By contrast, beliefs control system is responsible about pumping the positive energy in the organization. A belief system is used to inspire and motivate organization members to search, initiate, create, explore, and expand their efforts to engage in

useful and appropriate actions (Simon, 1995, 2000). This in turn, require an open and flexible culture that can provide platform form for this energy to become an organization culture and atmosphere. Whereas, in a high uncertainty avoidance culture where an autocratic style of management and control companied with strict laws, rules, security, safety, and less participation that dominate control and management practices, beliefs system cannot simply provide the organization with motivation required to search, initiate, create, explore, and expand their efforts to engage in useful and appropriate actions.

In fact, people from such high uncertainty avoidance culture are wary and anxious. While in the other hand beliefs system is built upon the initiative and positive energy. Thus, as the managers of such culture are wary of their future they will be afraid in giving the appropriate freedom for the organization member to search, initiate, create, explore, and expand their efforts to engage in useful and appropriate actions.

This in turn, may negatively influence the innovation and new ideas that play important role in today business environment that dominated by high level of competitive uncertainty. In fact, and according to this point view Hofstede et al., (2010) noted that, societies of high avoiding uncertainty they are risk aversive, conservative investors, and also, they avoid adopting new techniques, ideas, technology, and they consider that which is different to be dangerous. This indeed, completely works against the essence of beliefs system who responsible about innovation, new ideas, new techniques, new plans, and initiative through its positive energy.

Thus, it can be concluded that, societies of high uncertainty avoidance and because they are wary about their future, stressful, anxious, aggression, and neuroticism (Hofstede & Hofstede, 2004; Hofstede et al., 2010) tend to use traditional control techniques such as limitation and restriction instead of using more modern control systems such as beliefs control.

This imply that the Palestinian listed firms have to change its control behaviour although it's a product of its high uncertainty avoiding culture that inherent in its top managers. Because, continuing with traditional way of control represented by strict laws, rules, security, safety, less participation, and preference for rule-based behaviour they missed the opportunity to inspire their workforce by the beliefs system to enhance the bottom line of their financial and non-financial performance.

6.4.1.2 High uncertainty avoidance culture and boundary control system (H2-b)

Boundary control system is the second lever of control components that was investigated under the influence of high uncertainty avoidance culture in the Palestinian listed firms. To that end, the researcher developed Hypothesis H2-b, which states that, "There is a positive significant association between high uncertainty avoidance culture and boundary control system." The outcome of the PLS-SEM bootstrapping analysis shows that a positive significant association between high uncertainty avoidance culture and boundary control system in the Palestinian companies at ($\beta = 0.649$, $t = 4.735$, $p < 0.000$), (refer to Table 5.26).

This accepted positive association between high uncertainty avoidance culture and boundary control system is harmonized with the expectation of Hofstede (1984) who

noted that, “we can expect more formalization, standardization and ritualization in strong uncertainty avoidance countries” (p. 93). Since societies of strong uncertainty avoidance culture such as Palestinian are assertive and risk averse (Hofstede et al., 2010), such society tends to avoid uncertainty by formal control such as rules, procedures, code of conduct, laws, and desired versus undesired action. In fact, people from high uncertainty avoidance culture feel uncomfortable if there are no rules and procedures (Hofstede, 1984), hence, autocratic style of management and control usually govern their organizations as well as less participation with a preference for rule-based.

Accordingly, boundary system is considered as the optimal solution for Palestinian companies, since boundary system provides the appropriate rules, procedures and code of conduct to control employees and organization behaviour. Thus, high uncertainty avoidance societies such as Palestinian try to feel more secure by creating a sense of control through high level of avoiding uncertainty by relying on formal rules and procedures that embedded in boundary system.

Therefore, boundary system in such kind of culture is considered as the optimal control solution, due to its ability in providing the appropriate rules, procedures and code of conduct to control employees and organization behaviour. In fact, reviewing the empirical result of the current study, reveal that the association between high uncertainty avoidance and boundary system was found to be the strongest among all levers of control dimensions (i.e., beliefs, boundary, diagnostics, and interactive control). This in turn, provide a sign about the fundamental role of rules, procedures, code of conduct, laws, and desired versus undesired action in the Palestinian control

style. In different words, the essence of boundary control is essential and important in the control practices of those companies.

However, it should be noted here that stressing too much on boundary system as a natural behaviour in high uncertainty avoidance culture may result in tightness control system or, in different words, will lead to rigid control system. This in turn, may lead to different kinds of negative side effects includes: increase the internal tension and pressure within the organization, empire the internal organizational consistency, discouraging employee motivation and employee loyalty, decrease employee satisfaction, increasing employee turnover, impair communication channel between organization members and departments, kill the possibility of the innovation and creativity, and impair competitive position of the firm. All these negative effects of the exaggeration in the limits and constraints that embedded in boundary control system will prevent organization to deal effectively and efficiently with the surrounding challenges and uncertainties that need open and flexible control system, and as such, the survival and growth of the firm will be questionable.

Hence, there are many negative side effects if the company exaggeration in setting limits and constraints that impeded in boundary control system. Accordingly, organizations from high uncertainty culture have to be conscious and careful not to fall in designing rigid boundary system as a natural influence of their culture. In addition, to all previous points, relying heavily on boundary system as the absolute control solution, may absorb the management attention and organization resources and that will affect the important balancing between levers of control components (i.e., beliefs, boundary, diagnostic and interactive system).

It can be concluded that companies from high uncertainty avoidance culture such the Arab World, design their control system based on the essence of boundary system. They give great attention to the boundary system as such kind of control provide the optimal control techniques (limits and constrains) from their point view to avoid uncertainty that inherent in themselves.

6.4.1.3 High uncertainty avoidance culture and diagnostic control system (H2-c)

Moving toward the influence of high uncertainty avoidance culture on diagnostic control system, the researcher developed Hypothesis H2-c, which states "There is a positive significant association between high uncertainty avoidance culture and diagnostic control system". The statistical results of the PLS-SEM bootstrapping approach showed significant association between these two variables in Palestinian companies at ($\beta = 0.376$, $t = 1.838$, $p < 0.04$), (refer to Table 5.26).

This accepted association between high uncertainty avoidance culture and diagnostic control system aligns with previous research grounded in contingency theory (Chow et al., 1999; Chow et al., 1994; Frucot & Shearon, 1991; Lincoln, Hanada, and Olson; 1981; Ueno & Wu, 1993; Vance et al., 1992). However, as mention earlier through this research, Palestinian society as an example of high uncertainty avoidance societies are wary of their future. They believe that uncertainty is inherent in their life, which represents a continuous source of threat that must be countered (Hofstede & Hofstede, 2004; Hofstede et al., 2010). Therefore, they adhere to strict laws, rules, security, safety and believe in absolute truth as the only ways to confront uncertainty (Hofstede & Bond, 1988).

In the other hand, diagnostic system is responsible to motivate organization members to align their performance and behaviour with organizational objectives. The diagnostic system is considered to be the backbone of MCS, as it enables managers to benchmark organizational performance against targets. It reports fundamental information that allows managers to focus their attention on monitoring critical success factors in order for the firm to attain its intended strategy. Moreover, this kind of control is responsible for measuring critical success factors that the future of top managers depends on. In different way, as diagnostic control is responsible for measuring and communicating the most critical issues in the firm, this in turn can positively decrease the anxiety level of the Palestinian managers as well as any other managers from high level of uncertainty avoidance culture.

Accordingly, Palestinian managers will emphasise the use of diagnostic control to feel more secure and safe. Hence, the more the society have high score on the uncertainty avoidance scale the more the managers will stress the use of diagnostic system to avoid uncertainty and ensure that their future is safe. Based on that, and as the characteristics of high uncertainty avoidance culture are inherent in the managers form such culture this ultimately will motivate them to use this type of control as it allows the managers to control the organization through feedback, results control, performance control, and output control among others.

Indeed, diagnostic systems are similar to the boundary system in imposing constraints on organization members to align their performance and behaviour with organizational objectives (Simons, 2000), which is preferable in societies of high uncertainty avoidance such as the Arab world as was discuss in the previous section

6.4.1. Therefore, such societies will try to feel more secure by creating a sense of control through avoiding uncertainty. This in turn, may influence the behaviour of the top management in the process of preparing diagnostic control components such as profit plans and budget to be as much as possible achievable.

Their anxiety may influence them to set achievable plans instead of setting challenges and ambitious one to avoid risk and any future uncertainty regarding the achievement of those plans. Furthermore, managers in such culture will try to exclude any uncertain factor from those plans and budget to avoid any future problems regarding the achievements of those plans and budgets because they are anxious about their future (Hofstede et al., 2010). This assumption is harmonic with Chow et al., (1999) whom conclude that people from high uncertainty avoidance culture prefer to exclude any factors that are beyond their control in evaluating their performance.

However, it can be concluded that, societies of high uncertainty avoidance culture such as the Arab World, will tend to use diagnostic control as such system provide them with most relative information about their critical success factor. This in turn, can contribute significantly in creating sense of control to decrease their anxiety. Accordingly, Palestinian companies as was proven by the empirical evidence of the current study, stress the use of diagnostic control to avoid uncertainty that inherent in their managers.

6.4.1.4 High uncertainty avoidance culture and interactive control system (H2-d)

The final levers of control dimension that was examined under the influence of high uncertainty avoidance culture in the Palestinian listed firms was interactive control system. For that purpose, Hypothesis H2-d, which states "There is a positive significant association between high uncertainty avoidance culture and interactive control system", was designed to test this relationship. The statistical results of the PLS-SEM bootstrapping approach showed significant association between high uncertainty avoidance culture and interactive control system in the Palestinian companies at ($\beta = 0.442$, $t = 1.893$, $p < 0.03$), (refer to Table 5.26).

Indeed, as this is the first study to examine the influence of high uncertainty avoidance culture on interactive control system, it's difficult to relate the result of the current study to the previous one. Therefore, understanding the result require reviewing the characteristics of high uncertainty avoidance culture as well as the essence of interactive control system is fundamental. Societies with a high level of uncertainty avoidance are wary of their future (Hofstede, 1980). They believe that uncertainty is inherent in their life, which represents a continuous source of threat that must be countered. Therefore, such societies adhere to strict laws, rules, security, safety, less participation, and preference for rule-based behaviour. In addition to that, an autocratic style of management and control is found in their organizations because they believe in absolute truth as the only ways to confront uncertainty (Hofstede & Bond, 1988; Hofstede & Hofstede, 2004; Hofstede et al., 2010).

In the other side, interactive control enables top managers to engage personally in monitoring the organizational activities, to personally monitor uncertainties, and to stimulate search and learning for new ways to strategically position the company in a dynamic and uncertain marketplace. Simons (1995) noted that interactive control system is not a unique type of control system: "many types of control systems can be used interactively by senior managers" (p. 96). Choosing which control to be used interactively depends on the strategic uncertainty level, source, type, and its possible influence. Some strategic uncertainty requires beliefs system to be used interactively, while others used the boundary system interactively, whereas yet other uncertainties require a diagnostic system to be used interactively, especially with respect to the use of a performance measurement system (PMS) that embedded in a diagnostic system.

Accordingly, the association between high uncertainty avoidance culture and interactive use of the MCS represents an extension of contingency-based research from its organizational basis to a more sociological concern (Chenhall, 2003). This concern seems to be a logical response due to the power of high uncertainty avoidance culture in influencing the interactive use of the MCS. The base of this association is that the more the society have high rank on the uncertainty avoidance scale the more the people will be anxious, feel threatened by ambiguous or unknown situations, and wary of their future (Hofstede & Hofstede, 2004). This in turn, will influence top managers to engage personally in monitoring the organizational activities to feel safe and secure.

Thus, managers from high uncertainty avoidance culture will try to feel more secure by creating a sense of control through using MCS interactively, but it has to be noted

here that if the top-management stress the interactive use of MCS for the purpose of feeling secure instead of learning and searching for strategy renewal as the definition of interactive control (Simons ,1995), this may lead to different harmful side effects.

In this context, and in order to understand this issue more in depth we have to discuss why managers of high uncertainty avoidance culture may prefer to use MCS interactively, which could be illustrated in two points. Firstly, to search and learn and that is the fundamental assumption behind the interactive control to enhance organizational performance through strategy renewal as was suggested by (Simons, 1990, 1995, 2000), which perfectly has significant influence in producing and sharing information, which in turn will result in acquiring the desired knowledge. Therefore, this involvement of top management that is accompanied with interactive exchange of information will motivate and facilitate the learning process throughout the organization about its external environment and how to cope with external challenges (Simons, 1990, 2013).

The second potential purpose of using MCS interactively in high uncertainty avoidance societies is due to the influence of their culture characteristics (high anxiety, stress, aggression, neuroticism, risk aversive, conservative investors, preference for rule-based behaviour, and avoid adopting new techniques and ideas) (Hofstede, 1980; Hofstede & Hofstede, 2004), and, as such, top management under such characteristics may use interactive control system to ensure that the information is not manipulated in their subordinate office because the anxiety and stress inherent in themselves (Hofstede, 2010).

However, if top managers are using interactive system to feel more secure and safe instead of using it for searching and learning for strategy renewal, this may lead to different types of negative outcomes. For instance, if the top management exaggerate the interactive use of MCS and did not delegate some critical control issue to their subordinates, this could result in discouraging the low level managers in initiating and exploring new ways of survival and growth and that may weaken the accumulative experience of the subordinates in confronting and dealing with critical decisions, which could impair the whole organization as the subordinates representing the next generation of the top managers of the company.

Furthermore, using interactive control system in an exaggerated manner due to high level of anxiety may lead to autocratic and rigid control system that preventing the possibility of distributing the knowledge all over the organization. According to this critical review of the positive and negative side effects of the interactive use of MCS, there is a sign that, top management from high uncertainty avoidance culture (Palestinian managers) use the interactive system for the second purpose, which is to feel more secure and safe instead of learning and improving the performance due to the influence of high uncertainty avoidance culture on the mentality and behaviour of the Palestinian managers.

6.4.2 Collectivism Culture and Levers of Control

This section discusses the findings of the Hypotheses (H2-e to H2-h) for the influence of collectivism culture on each dimension of levels of control (i.e., beliefs, boundary, diagnostics, and interactive control). Hence, the following sub-sections discuss each relationship separately.

6.4.2.1 Collectivism culture and beliefs control system (H2-e)

For the purpose of testing the relationship between collectivist culture and beliefs control system, the researcher develops hypothesis H2-e, which states "There is a positive significant association between collectivism culture and beliefs control system". The empirical finding shows that the path coefficient from the collectivism culture to and beliefs control system was not statistically significant at ($\beta = 0.108$, $t = 0.600$ $p < 0.28$), (refer to Table 5.26).

This results in line with Merchant (1995), whom were proposed; collectivism would be a culturally driven orientation of the managers to the firm. The result rejected the hypothesis and raise the question of whether this assumption is valid or not. In contrast, the finding of this study is inconsistent with Ueno and Sekaran (1992) and Harison (1993) who found collectivism culture has its influence on MCS.

In fact, as this is the first study to examine the influence of collectivist culture specifically on beliefs control system, it's difficult to directly compare the result of the current study with any previous one. However, to understand the result reviewing the characteristics of collectivist culture as well as the essence of beliefs control system is fundamental. Collectivism pertains to societies in which people from birth onward are integrated into strong and cohesive in-groups, which throughout people's lifetimes continue to protect them in exchange for unquestioning loyalty (Hofstede & Hofstede, 2004).

In the other hand, a belief system is used to communicate the core values of an organization in order to inspire and motivate its members to search, initiate, create, explore, and expand their efforts to engage in useful and appropriate actions.

Thereby, it supposes that collectivist culture positively influence the use of beliefs system, which was not the case of the Palestinian companies as the empirical finding shows that, and as such, this raise the question of whether this assumption is valid or not. In different word, this raise the question of whether collectivist culture can still influence the behaviour of the organization or not. Whether collectivist societies still maintain the characteristics of the collectivism culture or not, specially under the pressure of the advanced technology and the spread use of the social media that dominating the social behaver in addition to different economic pressures that change the life style which in turn influence the collectivism culture worldwide.

In this context, Palestinian history has noted events that have impacted its collectivist culture. The most two important recent factors have been: 1) the Israeli occupation and its aggression, and 2) the political changes since the establishment of Palestinian National Authority after the Oslo accord 1993, which is considered one of the most important events to bring anxiety to the society. Palestinian culture under such pressure become less collective due to increased economic, social and political pressures. Individuals exposed to such pressures often abandon the extended family and give loyalty and attention to his/her closest family instead to the extend one. In addition, group, teamwork and society cooperation become less important. Thus, a new generation arises with differences in their habits, traditions, customs and behaviour, especially after the spread of the social media.

Accordingly, although Palestinian still consider a collectivist society, they become lees collectivist than before. This decrease in their collectivist characteristics might be the result behind this neglected association between collectivist culture and beliefs

control system in the Palestinian listed firms. In addition to that, this rejected association between collectivist culture and beliefs system might be because Palestinian companies use beliefs system slightly.

This assumption might be the case because Palestinian companies and because of the influence of high uncertainty avoidance culture which is stronger than collectivism culture tend to use boundary system more than beliefs system as was discuss previously in sections 6.4.1.1 and 6.4.1.2. Accordingly, boundary system is considered as the optimal solution for such societies, since boundary system provides the appropriate rules, procedures and code of conduct to control employees and organization behaviour. As a result, boundary system will absorb the management attention and organization resources and that will affect the rest of LOC framework namely, beliefs, diagnostic and interactive system as a result of focusing heavily on boundary system. Therefore, Arab companies such as Palestinian prefer to use the essence of boundary system instead to use beliefs system which will be discuss more in depth in the next section.

Based on the above discussion it can be conclude that, collectivist culture has no influence on the beliefs control system, and as such, collectivist culture should be rechecking again in the context of the Arab world. This recheck will help understand if whether Arab societies and under the pressure of this age of technology and social media, as well as many other daily pressures still collectivist societies like before or not.

6.4.2.2 Collectivism culture and boundary control system (H2-f)

Boundary control system is the second lever of control components that was investigated under the influence of the collectivist culture in the Palestinian listed firms. To that end, the researcher developed Hypothesis H2-f, which states that, "There is a negative significant association between collectivist culture and boundary control system." The outcome of the PLS-SEM bootstrapping analysis accepted the hypothesis and shows that a negative association govern the relationship between collectivist culture and beliefs control system, at (β = -0.292, t = 1.732, $p < 0.05$), (refer to Table 5.26).

The finding from the current study, is in line with (Bond et al., 1982; Chow et al., 1996; Leung and Bond, 1984). For instance, Chow et al., (1996) whom tested the behaviour of profit centre managers under tight control in both collectivist and individualist cultures, they concluded that under tight control, managers from a collectivist culture were less likely to engage in dysfunctional activities such as a high level of performance manipulation or short-term oriented behaviour compared to their counterparts from an individualistic culture.

In fact, in order to understand the result reviewing the characteristics of collectivist culture as well as the essence of boundary control system is important. Collectivism refers to societies in which people from birth onward are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty (Hofstede et al., 2010). Accordingly, collectivist people perceive themselves first and foremost as members of a group-and they communicate from that perspective; emphasize cooperation and group harmony, group decision making, and long-term, they are also loyal to the group success.

In the other hand, boundary system delineates the acceptable domain of strategic activity for organizational participants (Simons, 1995). The idea behind the boundary system is to communicate clearly the actions and/or behaviour that the organizational members should avoid. Its purpose is to allow employees the freedom to search, initiate, and innovate within certain pre-defined areas. Consequently, boundary system provides the appropriate rules, procedures and code of conduct to control employees and organization behaviour.

Based on this review of collectivist culture and boundary system, it can be concluded that the characteristics of collectivist culture can provide a sense of control that the boundary system responsible to provide. Collectivist culture provide a sense of care and protection that is the main aim of boundary system. Thus, such culture can replace some parts of boundary system. For instant, as people care about organization success and they have the willing to protect their organization due to the influence of their collectivist culture, limits and constraints that embedded in boundary system may do harm than good in the societies of collectivist culture. Accordingly, under such culture, boundary system will marginally be replaced by collectivism culture characteristics.

The base of this replacement is because people perceive themselves first and foremost as members of a group, emphasize cooperation and group harmony, loyalty of the organization member toward group success, and the preferences toward group decision making among others. Based on that, people from collectivist culture are more willing to overcome their personal interests than those in individualistic culture, which in turn, will influence the design and use of boundary system.

Therefore, observed differences can be seen between individualist and collectivist culture regarding MCS and specifically boundary control system.

In conclusion, the finding from this study show that there is a negative association between collectivist culture and boundary system in the Palestinian listed firms. Accordingly, the more the society have high rank on the collectivist scale, the less emphasis will be placed on the boundary system because people from collectivist culture are more willing to protect their organization which is the essences of boundary control system.

6.4.2.3 Collectivism culture and diagnostic control system (H2-g)

Moving toward the influence of collectivist culture on diagnostic control system, the researcher developed Hypothesis H2-g, which states "There is a positive significant association between collectivist culture and diagnostic control system". The statistical results of the PLS-SEM bootstrapping approach showed no significant association between these two variables in Palestinian companies at ($\beta = 0.262$, $t = 1.148$, $p < 0.13$), (refer to Table 5.26).

This result of the current study is in line with Merchant et al. (1995) who cannot find relationship between collectivist culture and MCS. However, reviewing diagnostic system and collectivist culture will assist in understand the result. Diagnostic control is the backbone of MCS. It is concerned about setting plans and budgets as well as measures the performance to make comparison between actual and desired outcomes (Simons, 1995). In the other hand, collectivist people perceive themselves first and foremost as members of a group and they communicate from that perspective;

emphasize cooperation and group harmony, group decision making, and they are also loyal to the group success (Hofstede et al., 2010).

Under this characteristic of the collectivist culture, it was expected to find a positive association between diagnostic and collectivist. One of the expectation was, as Palestinian are govern by collectivism culture, measuring and communicating the performance will carry by the name of group. In addition to that, preparing plans and budgets that embedded in the diagnostic system suppose not to be limited to the top management since collectivism societies believe in in-group work (Hofstede et al., 2010), which will assist in setting those plans and budget after a proper communication between superiors and their subordinates.

Whereas statistical results of the PLS-SEM bootstrapping approach showed no relationship between diagnostic control and collectivist culture in the Palestinian companies. This rejected association between diagnostic and collectivism, might reveal the changes that happened to the Palestinian collectivist culture as was discuss previously in section 6.4.2.1.

Briefly, Palestinian history has noted events that have impacted its collectivist culture. Palestinian culture become less collective due to increased economic, social and political pressures. Under this pressure, Individuals often abandon the extended family and give loyalty and attention to his/her closest family instead to the extend one. In different words, selfishness governs the relationship between individuals instead of solidarity and cooperation. As a result, group, teamwork and society cooperation become less important. Thus, a new generation arises with differences in

their habits, traditions, customs and behaviour, especially after the spread of the social media.

Accordingly, although Palestinian still consider a collectivist society, they become lees collectivist than before. This decrease in their collectivist characteristics might be the result behind the absences influence of collectivist on diagnostic system in the Palestinian listed firms. Based on that, sociologist such as Hofstede supposed to re-evaluate the collectivist culture in the Arab world due to different kinds of pressure that might strongly influence the collectivist culture. Hence, it can be concluded that collectivist culture did not affect diagnostic control due to many factors influenced the Palestinian collectivist culture specially in the last two decades.

6.4.2.4 Collectivism culture and interactive control system (H2-h)

The final levers of control dimension that was examined under the influence collectivist culture in the Palestinian listed firms was interactive control system. For that purpose, Hypothesis H2-h, which states "There is a positive significant association between collectivist culture and interactive control system", was designed to test this relationship. The statistical results of the PLS-SEM bootstrapping approach showed no association between these two constructs in the Palestinian companies at ($\beta = 0.016$, $t = 0.074$, $p < 0.47$), (refer to Table 5.26).

This result of the current study in harmony with each of Chow et al. (1996) and Merchant et al. (1995) whom cannot find a clear influence of collectivist culture on MCS. For instance, Merchant et al. (1995) tested several hypotheses related to performance evaluation in both the United States and Taiwan. One of those

hypotheses was that because Taiwan was a collectivist society there would be a culturally driven orientation of Taiwan managers to the firm. The results rejected the hypotheses and raised the question of whether this assumption was valid.

In addition, Merchant et al. (1995) noted that, in a collectivist culture such as China, collectivism was not aligned with whole organization but was restricted to subgroups within the organization. Additionally, a competitive culture dominated the environment rather than cooperation and coordination as expected from collectivist dimension. In the Palestinian context, this rejected association between collectivist culture and interactive system might be justified by the changes that happened to the Palestinian culture specially in the last two decades. Accordingly, collectivist culture become less powerful in influencing orientation of Palestinian managers to the firm.

Thus, collectivist culture is not the determine factor regarding top managers' engagement in monitoring the organizational activities, to stimulate search and learning for new ways to strategically position the company in a dynamic and uncertain marketplace. As has been discuss previously in sections (6.3.8 and 6.4.4), environmental uncertainty (PEU) as well as high uncertainty avoidance culture is more powerful in influencing top managers' engagements in interactive control.

Therefore, it can be concluded that collectivist culture is not the determinant of using MCS interactively in the Palestinian listed firms due to many factors includes: the changes that happens to the Palestinian culture which weaken its collectivist. Second the power of high uncertainty avoidance over collectivist culture in influencing top management engagement in interactive control, and thirdly, the power of PEU over

collectivist culture in the Palestinian companies. For this point view, the result of effect size show that there was no effect of collectivism on interactive control system. In the other hand, the effect size of high uncertainty avoidance on interactive control was found to be medium (refer to Table 5.20). Accordingly, the involvement of top managers in the interactive use of the MCS is not the product of collectivist culture, rather it's the influence of different kind of factors, which still can be explained the power of contingency theory.

6.4.3 High Power Distance Culture and Levers Control

This section discusses the finding of the hypotheses (H2-i to H2-l) that concern about the influence of high power distance culture on each dimension of levers of control (i.e., beliefs, boundary, diagnostics, and interactive control). Accordingly, the following sub-sections discuss each relation separately.

6.4.3.1 High power distance culture and beliefs control system (H2-i)

For the purpose of testing the relationship between high-power distance culture and beliefs control system, the researcher develops hypothesis H2-i, which states "There is a negative significant association between high-power distance culture and beliefs control system". The empirical finding shows that the path coefficient from the high-power distance culture to beliefs control system was not statistically significant at (β = -0.035, t =0.196 p < 0.42), (refer to Table 5.26), but in the same time the empirical results assert negative influence of high-power distance on beliefs system.

In fact, as this is the first study to examine the influence of high-power distance culture on beliefs control system, it's difficult to relate the result of the current study

to the previous one. However, in order to understand the result, reviewing the characteristics of high power distance coculture as well as the essence of beliefs control system is fundamental. Power distance culture is the extent to which less powerful members of institutions and organizations within a country accept that power is distributed unequally (Hofstede et al., 2010). Therefore, high-power distance societies such as Arab countries are more autocratic and accept the differences in the distribution of power and wealth (Hofstede, 1980).

As a result, in societies of high-power distance, subordinates accept hierarchies' inequality in their organization, which in turn will let subordinates expect not be consulted in the decision or actions that affect them. The hierarchy in this case reflects and reinforces inequality. As a result of this inequality, superiors are expected to manage, lead, and make decisions autocratically and paternalistically. Subordinates on the other hand, are unwilling and afraid to disagree with their superiors (Child, 1981; Hofstede, 1980).

By contrast, beliefs control system is responsible about pumping the positive energy in the organization. A belief system is used to inspire and motivate its members to search, initiate, create, explore, and expand their efforts to engage in useful and appropriate actions (Simon, 1995, 2000). This in turn, require an open and flexible culture that can provide platform form for this positive energy to become an organization culture and atmosphere. In addition, beliefs system requires, an open channel of communication without autocratic style of management and control that dominating high power distance culture. Thus, beliefs system need cooperative and open environment that can establish effective communication channels to inspire

middle managers to participate in beliefs control system to transform organizational beliefs into action and strategies (Simons,1995).

Accordingly, it was expected to find significant negative association between high-power distance culture and beliefs control system due to the restricted and obedience culture that high-power distance brings to the organization. However, although the current study can't detect this significant negative association, the empirical finding still can show negative influence of high power distance culture of beliefs system.

This means that, the more the society have high rank on the power distance scale, the less emphasis will be placed on the belief system. The base of this negative association is due to the high distance between the superior and subordinate, top management and middle management, in short, the relationship between organizational hierarchies as was discuss by Hofstede & Bond, 1988; Hofstede & Hofstede, 2004; Hofstede et al., 2010.

As a result, beliefs system will suffer under such kind of culture due to authoritarian and distant nature of relationships, the obedience relationship between superior and their subordinate, bad communication channel, and autocratic style of control. This in turn, was supported previously by Bond (1993), who noted that in high-power distance culture such as Chinese, organization hierarchies are built upon authoritarian and distant nature of relationships between organizational hierarchies.

In conclusion, in a high-power distance culture, such as Arab societies, where there is a big distance between top management and middle management, the aim of this

beliefs system to stimulate organization members to search, create, explore and initiate will suffer from the negative influence of high-power distance culture, which ultimately appear in the weak and fluctuated performance of the Palestinian listed firms.

6.4.3.2 High power distance culture and boundary control system (H2-j)

Boundary control system is the second levers of control components that was investigated under the influence of high power distance culture in the Palestinian listed firms. To that end, the researcher developed Hypothesis H2-j, which states that, “There is a positive significant association between high-power distance culture and boundary control system.” The outcome of the PLS-SEM bootstrapping analysis shows that no association between these two variables in the Palestinian companies at ($\beta = -0.126$, $t = 0.944$, $p < 0.18$), (refer to Table 5.26).

For understanding the current result, the characteristics of high power distance culture must be reviewed and connect to the essence of boundary control system. Power distance was theoretically identified as the main cultural dimension that determines the appropriate relationship between the superior and subordinate, top management and middle management, in short, the relationship between organizational hierarchies (Harrison, 1993; Hofstede, 1984; O'Connor, 1995).

Power distance culture is the extent to which less powerful members of institutions and organizations within a country accept that power is distributed unequally (Hofstede et al., 2010). Therefore, high-power distance societies such as Arab countries are more autocratic and accept the differences in the distribution of power

and wealth (Hofstede, 1980). Because of this inequality, superiors are expected to manage, lead, and make decisions autocratically and paternalistically. Subordinates on the other hand, are unwilling and afraid to disagree with their superiors (Child, 1981; Hofstede, 1980).

By contrast, boundary control system delineates the acceptable domain of strategic activity for organizational participants (Simons, 1995). The idea behind the boundary system is to communicate clearly the actions and/or behaviour that the organizational members should avoid. Accordingly, boundary system is responsible to impose limits and constraints on organizational activities (Simons, 1995).

Evaluating the essence of boundary system under the influence of high-power distance culture, revels that high-power distance culture provides some control aspect of the boundary system. Some of those aspects are the limits and constraints that embeamed in boundary system. Since superiors from high power distance are expected to manage, lead, and make decisions autocratically and paternalistically (Hofstede, 1984). This in turn, work as limits and constraints on employees' behaviour.

Accordingly, boundary system is compensated by the characteristics of high power distance culture. In addition, as high-power distance societies tend to autocratic style of control, this in turn manifest the limits and constraints on organization members' behaviours. Consequently, high power distance culture can replace some parts of boundary system, specifically, the limitation that impose on employees' behaviour. Based on that, negative association govern the association between high power

distance and boundary system. In different words, the more the society has high rank on the power distance scale the less emphasis will be placed on the boundary system.

Once again, the base of that is because such culture already established a sense of control, and specifically the limits and constraints of boundary system. Therefore, in this kind of culture limits and constraints that provided by boundary system is exist as a result of culturally driven behaviour. For instance, Hofstede implies the high rank of power distance in the Arab World as an important aspect that refers to the tight hierarchical structure of the enterprises in which highly hierarchical managers provide explicit directives to employees who are expected to follow them exactly (Dik, 2011).

On that basis, Arab employees learn to do what the boss says, or to ask for permission from the manager before doing anything. It is also important to describe how the superiors in high ranked positions can be seen, or are supposed to interact. As mentioned, Arabs employees and colleagues dislike conflicts and avoid sharp criticism towards their superior (Dik, 2011). Therefore, based on Hofstede and the empirical finding of the current study, it can be concluded that the characteristics of high power distance culture can work toward setting the acceptable domain of strategic activity for organizational participants as well as communicate clearly the actions and/or behaviour that the organizational members should avoid, which in turn can work in replacement manner of the boundary system in the context of the Palestinian listed firms.

6.4.3.3 High power distance culture and diagnostic control system (H2-k)

Moving toward the influence of high-power distance culture on diagnostic control system, the researcher developed Hypothesis H2-k, which states "There is a negative significant association between high power distance culture and diagnostic control system". The statistical results of the PLS-SEM bootstrapping approach showed no significant association between these two variables in Palestinian companies although there is negative assertion of high power distance on diagnostic control at (β = -0.071, t = 0.620, p < 0.27), (refer to Table 5.26).

The results from this study provide support for as well as contrasts to the extant literature. The This present study contrasts Chow et al., (999) and Harrison, (1993) whereas support Merchant et al., (1995). In fact, in societies of high power distance culture, organization hierarchies are built upon authoritarian and distant nature of relationships between organizational hierarchies (Bond, 1993). In addition, societies of high power distance such as Arab countries built autocratic style of control as an influence of their high-power distance culture that influence people to accept the differences in the distribution of power and wealth (Hofstede, 1980). As a result of this inequality, superiors are expected to manage, lead, and make decisions autocratically and paternalistically. Subordinates on the other hand, are unwilling and afraid to disagree with their superiors (Child, 1981; Hofstede, 1980).

By contrast, the aim of the diagnostic system is to motivate organization members to align their performance and behaviour with organizational objectives. It reports fundamental information that allows managers to focus their attention on monitoring

critical success factors in order for the firm to attain its intended strategy by enables managers to benchmark organizational performance against targets.

Combining the characteristics of the high-power distance culture with diagnostic system, it was expecting to find a negative influence of high power distance on diagnostic system in the context of the Palestinian firms. In different words, it was expecting that the high-power distance culture will assert negative influence on the diagnostic control system. Empirical finding shows no significant association between those two variables. Meanwhile, high power distance has negative influence on diagnostic system. This means that the more the society has high rank on the power distance scale, the less emphasis will be placed on the diagnostic system.

This could be due to the characteristics of the high-power distance culture that can provide a sense of control, which in turn replace some part of the diagnostic system. As the aim of the diagnostic system is to motivate organization members to align their performance and behaviour with organizational objectives, high-power distance culture can provide this sense of control by the limits and constraints that top management use as a natural influence of their culture to ensure that organization members behaviour is in line with organizational objectives.

Accordingly, in such society the control can be seen as a product of their culture influence. Top management design their control environment based on their beliefs and attitude that already govern by their high-power distance culture. It can be concluded that, as Palestinian have high rank of power distance scale, this will influence them to use their culture characteristics to control their organization, which

in turn replace some parts of the diagnostic system specially those control techniques that responsible about aligning the organizational members behaviour with organizational objectives.

6.4.3.4 High power distance culture and interactive control system (H2-l)

The final levers of control dimension that was examined under the influence of high power distance culture in the Palestinian listed firms was interactive control system. For that purpose, Hypothesis H2-l, which states "There is a negative significant association between high power distance and interactive control system", was designed to test this relationship. The statistical results of the PLS-SEM bootstrapping approach showed no significant association between these two constructs in the Palestinian companies at (β = -0.124, t = 0.850, $p < 0.20$), (refer to Table 5.26) in the same time the finding shows negative influence of high power distance culture on interactive use of the MCS, which is in line with expectations.

Indeed, as this is the first study to examine the influence of high power distance culture on interactive control system, it's difficult to relate the result of the current study to the previous one. Therefore, understanding the result require reviewing the characteristics of high power distance culture as well as the essence of interactive control system. High power distance culture is the extent to which less powerful members of institutions and organizations within a country accept that power is distributed unequally (Hofstede et al., 2010). Therefore, high-power distance societies such as Arab countries are more autocratic and accept the differences in the distribution of power and wealth (Hofstede, 1980).

As a result, in societies of high-power distance, subordinates accept hierarchies' inequality in their organization, which in turn will let subordinates expect not be consulted in the decision or actions that affect them. The hierarchy in this case reflects and reinforces inequality. As a result of this inequality, superiors are expected to manage, lead, and make decisions autocratically and paternalistically. Subordinates on the other hand, are unwilling and afraid to disagree with their superiors (Hofstede et al., 2010).

Interactive control represents in contrast represent to which level top managers will engage personally in monitoring the outcome of any control systems to stimulate search and learning in order to allowing new strategies to emerge (Simons, 1990). This in turn, required high level of communication and coordination between superior and their subordinates. By contrast, high power distance societies are described by the vast distance between superiors and subordinates (Harrison, 1993; Hofstede, 1984; O'Connor, 1995), and that has its negative side effect on the relationship between superiors and their subordinates, which will influence the communication effectiveness between both of them.

Add to this, obedience relationship usually governs the relation between top and lower level managers (Child, 1981; Hofstede, 1980) and that may lead the subordinates to be afraid to argue if the emerge strategy or objectives, as the fundamental role of interactive use of MCS, are not achievable. Therefore, searching and learning as the main aim of interactive control system may suffer from this obedience relationship. Hence, whatever the control systems that top management choose to engage in personally, without appropriate communication between top

managers and lower-level managers the effectiveness of interactive use of any control system will be limited to the communication level within the organization.

Accordingly, as the communication channel between superior and subordinate in the society of high power distance are govern by fear and obedience relationship, this in turn supposed to negatively influence the use of interactive system. In different way, the more the society have high rank in the power distance scale, the less emphasis will be placed on the interactive control due to bad communication channel, vast distance, obedience relationship between top and lower level managers.

Consequently, it can be concluded that, as Palestinian managers classified as high-power distance people, the interactive use of MCS will be suffer due to the negative effect of such culture characteristics on the interactive use of MCS that need open and flexible communication channel between superior and their subordinate as well as with all over the organization. As a result, this negative influence of high power distance culture on communication channel all over the organization, hinder the ability to build cooperative environment that can assist in effective use of interactive control system.

Therefore, interactive use of MCS is a product of the national culture influence, which once again stress the fundamental role of contingency theory in understanding the design parameters of MCS as well as it provides a guideline to design effective control environment that has the ability to enhance the organizational performance.

6.5 Management Control System and Organizational Learning (H3)

The third objective of the present study was to investigate the association between MCS and organizational learning in the Palestinian listed firms. To that end, the researcher developed Hypothesis H3, which states "There is a positive relationship between MCS and organization learning". This hypothesis was tested by using the PLS-SEM bootstrapping approach to meet this research objective. The final results from the empirical data analysis shows that positive and significant association between MCS and organizational learning at in the Palestinian companies at (β = 0.568, t = 4.373, p < 0.000), (refer to Table 5.23).

This finding provides support and evidence to previous empirical research grounded in contingency theory and resource-based view theory that demonstrated a direct significant impact between MCS and organizational learning (Lee & Widener, 2012; Marginson, 2002; Widener, 2007; Kloot, 1997; Abernethy & Brownell, 1999; Simons, 1990, 1991; Dent, 1990).

Organizational learning at the level of its most basic concept means the development of prudent behaviour by which an organization collectively learns through interactions with its environment that has the potential to influence behaviour (Sinkula, 1994; Slater & Narver, 1995). Therefore, organizational learning represents the accumulated experiences of organizational members, which are then incorporated into routine activities (Levitt & March, 1988). Based on these experiences, a firm adapts itself and formalizes its routines to influence and guide behaviour (Sinkula, 1994; Slater & Narver, 1995). Formalizing routines that assist in accumulating organizational learning can be seen in different kinds of control systems such as

beliefs, boundaries, and diagnostic controls (Simons, 2013, 2000) that are intended to control and guide behaviour leading to stimulating organizational learning.

The association between MCS and organizational learning can be seen in strategic renewal that requires organizations to simultaneously learn new ways of solving problems while also making improvements on what they have already learned (Lee & Widener, 2012; March 1991). Consistent with this view, Simons (1994), argued that, after the formulation of new strategy, managers communicate ideas and information to organization members through mission and vision statements. To that end, a firm develops its new routines (e.g., beliefs control systems) based on its experiences during strategy formulation to inspire and guide organizational search and discovery, which directly influences organizational learning (Simons, 1995; Lee & Widener, 2012; Widener, 2007).

This finding of this current research adds additional evidence to previous empirical research concluding that a belief system has the ability to stimulate organizational learning by motivating organization members to explore, initiate, and search for new ideas and actions (Marginson, 2002; Widener, 2007). In addition, a boundary system also motivates employees to search and explore within the predefined areas (Simons, 2000), which also directly influences organizational learning. In sum, these results suggest that MCS are significantly can build organizational learning by exploiting the essence of RBV theory.

Accordingly, companies should adapt RBV theory to build intangible competitive advantages which can be accomplish by designing effective control environment. For

example, companies should design their performance measurement system (PMS) as an important part of the diagnostic control system in harmony with RBV to strengthen the direct impact on organizational learning (Widener, 2007; Kloot, 1997; Lee & Widener, 2012). Diagnostic control supports managers with information needed on an organizational performance by making a comparison between the desired and actual, which directly converts organizational experience to learning. In line with result of this current study, Simons (1994) argued that a diagnostic system translates strategy through measuring and communicating critical success factors, which accumulate organization experience.

Furthermore, this finding also aligns with Kaplan and Norton (1996) and Kloot (1997), who concluded that a performance measurement system (PMS) informs organization members about a firm's strategy, which, in turns, helps accumulate and speed faster organizational learning. Thus, organizational learning is the process by which the common experiences of organization help develop new knowledge and insights to influence behaviour and improve a firm's capabilities which is the focal issue of the RBV theory (Fiol & Lyles, 1985; Huber, 1991; Slater & Narver, 1995).

As MCS are associated with organizational learning to create intangible competitive advantage, an interactive control system has a fundamental role in the process of accumulating and building organizational learning. Simons (1995) defined interactive control as a searching and learning tool, which ultimately assist in building organizational learning (Abernethy & Brownell, 1999; Widener, 2007; (Dent, 1990; Simons, 1994). However, it should be noted here that an interactive control system must be more organic to influence organizational learning through the

formal structure of a diagnostic control system. Thus, the formal structure of diagnostic control is an fundamental base in interactive control to stimulate organizational learning.

However, looking to this result in the context of the Palestinian listed firms illustrates the importance of organizational learning to companies. A descriptive analysis of the organizational learning items, shows a high mean score $m = 4.20$, (refer to Table 5.9) that indicates a strong emphasis on organizational learning. Furthermore, the highest mean score ($m = 4.30$) of the organizational learning items was the first item of organizational learning, which states "learning is the key to improvement" (Learn-1). Once again the finding illustrates the fundamental role of organizational learning to the Palestinian listed firms (for further results of the mean score of organizational learning refer to Table 5.10).

In conclusion, this study give support to previous empirical findings that reported a positive significant association between MCS and organizational learning (Simons, 1995; Lee & Widener, 2012; Widener, 2007; Marginson, 2002). As a result, the conclusion can be made that MCS assists in designing new strategies, possibilities and ideas and that promotes a culture of curiosity and seeking behaviour, and, as such, this emphasizes developing a culture of learning within an organization (Galer & Van Der Heijden,1992; Dent,1990; Lee & Widener, 2012; Simons, 1994, 2000). This, in turn, predicts that a firm's orientation to learn is higher when firms place more emphasis on their MCS. Accordingly, effective MCS design can assist in building intangible competitive advantages, and, because of this, MCS can be an

important tool for the resource-based view theory (RBV) that is concerned with converting company resources to sustainable competitive advantages.

6.6 Organizational Learning and Organizational Performance (H4)

The fourth objective of the current study was to examine the association between organizational learning and organizational performance in the Palestinian listed firms. To test this relationship, the researcher developed Hypothesis H4, which states "There is a positive association between organizational learning and organizational performance". The empirical finding of the PLS-SEM bootstrapping approach, indicates a positive and significant association between organizational learning and organizational performance at ($\beta = 0.573$, $t = 6.323$, $p < 0.000$), (refer to Table 5.23).

Empirically, H4 is supported, and this study argues that a higher emphasis on organizational learning would lead to higher organizational performance. The empirical evidence of this present study provides support to the existing literature (Jiménez & Sanz-Valle, 2011; García-Morales et al., 2012; Hussein, Mohamad, Noordin, & Ishak, 2014; Jain & Moreno, 2015; Lord, 2014; Noruzy, Dalfard, Azhdari, Nazari-Shirkouhi, & Rezazadeh, 2013; Senge, 1990; Snyder & Cummings, 1998) that demonstrates a positive association of organizational learning on organizational performance. Hence, this result supports the claim of the importance of the resource based view theory (RBV) on enhancing organizational performance by creating intangible competitive advantage that ultimately will improve performance (Baker & Sinkula, 1999; Jiménez-Jiménez & Sanz-Valle, 2011; Lonial & Carter, 2015; Lord, 2014; Santos-Vijande et al., 2012).

Accordingly, organizational learning is considered to be a critical antecedent of a firm's performance. This finding suggests that the companies, which plan to enhance their performance by building competitive advantage, need to start building their learning. In fact, the direct influence of organizational learning can be seen on organizational innovation capabilities that will lead to better performance (Turner & Pennington, 2015).

Therefore, organizational learning is described as a successful management instrument applied to gain a sustainable competitive advantage (Calantone et al., 2002; Fraj, Matute, & Melero, 2015; Simons, 1990). Thus, organizational learning can lead to higher performance growth, and as such, learning has been considered to be an important long-term tool for growth and development which is the aim of RBV theory that assist in sustained growth and development through building sustainable competitive advantage.

As a result, learning and growth performance is defined as the extent to which an organization succeeds in creating a climate that supports organizational change, innovation, and growth (Kaplan & Norton 2001). Based on that, learning and growth performance enables an organization to align its human resources, technology, and corporate climate with its strategic and performance requirements (Kaplan & Norton, 2001; M. Lee & Widener, 2012).

For example, managers are constantly seeking new markets and customer segments with a priority placed upon creating and bringing to market new products and services to build market share and revenue. At the same time, managers must also

maintain and deepen their connections with existing customers. Performance in learning and growth provides the necessary intellectual infrastructure to establish successful internal business processes for supporting these initiatives. As a result of the empirical finding of the current study, Palestinian companies that plan to enhance its performance should invest in their organizational learning to build sustainable competitive advantages that will lead to sustainable growth of the organizational performance.

6.7 The Mediation Role of Organizational Learning Between MCS and Organizational Performance (H5)

The Final objective of the current study was to assess the mediating role of organizational learning between MCS and organizational performance. For that end, the researcher develops hypothesis H5, which states "Organizational learning mediate the relationship between MCS and organizational performance". The outcome of the PLS-SEM bootstrapping analysis supported mediating role of organizational learning in the Palestinian companies at (β = 0.573, t =3.326 p < 0.000), and VAF= 32.72 % (refer to Table 5.29).

The findings from this current study lend support to the existing empirical and theoretical literature. This present study harmonizes with Lee and Widener, (2012), who empirically tested this mediation relationship and reported that organizational learning mediates the relationship between MCS and organizational performance. And, as such, the finding of the current study confirms the association between MCS and organizational performance through building organizational learning as an example of intangible competitive advantage that ultimately derive organizational learning.

However, although fewer empirical studies have tested this mediating relationship empirically, which make the comparison with previous empirical research limited, Simons, (1990) argued that MCS can positively influence organizational performance through search and learning. In diffident words, organizational learning mediate the relationship between MCS and organizational performance.

The theoretical base of this mediation relationship is that MCS can enhance the performance through building and sustaining organizational learning. Empirically, this study confirms this assumption. In other words, organizational learning serves as a means to drive and appropriate the capabilities and innovations in this competitive world (Jain & Moreno, 2015; Lopez-Valeiras, Gonzalez-Sanchez, & Gomez-Conde, 2015; Turner & Pennington, 2015).

As Drucker (1999) has emphasized that the productivity of knowledge workers is the great challenge of this century and identifying it as the true competitive edge of a global economy. Therefore, organizations need to focus on the concept of organizational learning through designing an effective MCS that has the ability to build and sustain learning. As organizational learning is often established as a result of training, knowledge acquisition, stakeholder engagement among others (Oelze et al., 2014), organizations must invest as much as they can in these ingredients of learning.

The positive influence of building organizational learning thorough effective MCS design can assist companies in improving their customer satisfaction, job satisfaction as well as developing and improved core competences (Jain & Moreno, 2015;

Pantouvakis & Bouranta, 2013). Thus, a learning organization purposefully designs and constructs its structure, culture and strategy to enhance and maximize its performance. Such organizations create ambidextrous structures to increase their competitive advantages, innovations and effectiveness (O'Reilly & Tushman, 2011), which ultimately will enhance the performance.

In conclusion, organizational learning literature review reveals that, learning can improve the performance if learning influence innovation capabilities (Baker, & Sinkula,1999), market-oriented behaviour (Calantone, Cavusgil, & Zhao, 2002), efficiency, customer satisfaction, job satisfaction, (Jain & Moreno, 2015; Pantouvakis & Bouranta, 2013) among others. Based on that, MCS should be designed with respect to these capabilities in order to assist organizational learning in its mediating role between MCS and organizational performance.

6.8 Contributions of the Study

This section will present different aspects of the research contributions achieved by this study. Thus, the following sub-sections introduce the theoretical, methodological and practical contribution respectively.

6.8.1 Theoretical Contributions

As was discussed previously in Chapter 1, this study makes several contributions to theoretical foundations relating to the contingency perspective of MCS design. The following points discuss and highlight the theoretical contributions of this study.

First, this study of the contingency perspective of MCS design provides insights that enhance the understanding of the effects of the organizational context on MCS design. This study contributes to the theoretical foundation about the important role that PEU plays in designing effective MCS to fit the surrounding environment. This study supports other studies that have underlined the importance of PEU towards successful MCS (Merchant & Otley, 2006; Otley, 1999; Widener, 2007; Mahlendorf & Weber, 2014; Henri, 2006; Chenhall & Morris, 1986; Govindarajan, 1984; Khandawella, 1972; Otley, 2012; Simons, 1990).

Additionally, in connection with the importance of the PEU, this study also contributes to the literature about the influence of long-term uncertainty (political uncertainty) on the perceptions and mentality of managers. For example, Palestinian managers consider political uncertainty as part of their daily lifestyle due to its long-term existence. This led to neglecting its potential influence on MCS design.

In addition, this study contributes to the literature about manager's preferences regarding MCS design. For instance, Palestinian mangers prefer to give high attention to what can be controlled (e.g., operational, and competitive uncertainty) instead of wasting their time trying to controlling that which is beyond their reach (e.g., political, and technological uncertainty) due to the Israeli occupation.

Second, this study makes several contributions to the literature on the contingency factors of MCS regarding the influence of the Arab culture that has received negligible attention in previous MCS studies. Most previous researchers have investigated the impact of Western and the national cultures of developed economies

on MCS (e.g., Harrison & McKinnon, 1999; Merchant et al., 1995; Chow et al., 1994; Daley et al., 1985; Harrison, 1993; Ueno & Wu, 1993; Harrison et al., 1994). Hence, this current study makes the preferences of MCS designers in an Arab culture become more understandable.

This research makes distinctive contributions through increasing the primary knowledge about MCS design, specifically with respect to an Arab culture, revealing the nature of Arab culture and its implications for MCS design. It deepens the understanding of the cultural influences on the preferences for MCS design. In general, national culture is an important contingent factor with respect to designing an effective control environment. In this study, high uncertainty avoidance is the main cultural dimensions that shape the cultural perception toward MCS design. Hence, this research contributed to the limited extant cross-cultural MCS research in the Arab world. Moreover, this study is among the first contingent-based research that has studied the levers of control under the influence of the national culture and deepens this important area of MCS research.

Third, this study also contributes to the growing knowledge on the influence of MCS on organizational learning. In this connection, this study indicates that effective design of MCS has a strong positive influence on building organizational learning. A further contribution to literature is the evidence of the fundamental mediating role of organizational learning between MCS and firm performance, which provided strong evidence of the importance of RBV in creating a sustainable competitive advantage that ultimately will enhance a firm's performance.

In conclusion, this contingent-based research brought a different kind of theoretical contribution to the existing literature. Briefly, this validates the fundamental role of contingency theory in designing an effective control environment based upon existing contingent factors. In addition, this study also validates the inevitable role of RBV theory in building and sustaining organizational learning as a fundamental basis for building a competitive advantage that will improve organizational performance in this competitive world.

6.8.2 Methodological Contribution

Beside the theoretical contribution, this study also contributes to the methodological perspective. With regard to the instrument used to extract data from the respondents, this study adapted information from previous measurement. Because these instruments and their items were used in United States, Europe and other advanced countries, they required rigorous test-pre-test procedures to ensure that the items were applicable in the context of the Palestinian environment and is culture. Thus, this study makes a methodological contribution by validating these measurements in a different context.

In addition to that, this study gathered together different items from different sources to formulate metrics for measuring variables. National culture metrics were big challenge in the current research requiring a deep review of the existing literature to arrive with valid measurements to accurately assess the impact of Hofstede's cultural dimensions on MCS design. After a deep review to the literature, this study validated the metrics for measuring measurements high uncertainty avoidance, high power distance and collectivism, (refer to section 4.6.5).

Moreover, the measurement of political uncertainty is considered one of the important methodological contributions of the current study. Due to the unique case of the political uncertainty that dominates the Palestinian experience, measuring determinants of political uncertainty was also a big challenge. A deep review of the existing literature led this study to validate measurements that were strong enough to measure accurately the political uncertainty in the context of this research. This study, with guidelines drawn from previous studies as well as by means of consultation with academicians and practitioners validated the metrics used for measurement (refer to section 4.6.4), which also required test-pre-test procedures to ensure its validity and reliability.

Another methodological contribution of the present study is with regard to the translation of the final instrument into the Arabic language. As discussed previously, Arab countries suffer from the scarcity of the MCS research and instruments in the Arabic language. Translating the study instrument to Arabic language will assist future research by providing the Arabic version of a valid questionnaire, (refer to Appendix 3).

In conclusion, this study significantly contributes to the literature by validating items to measure constructs of this study's model and thus decreases the scarcity of instruments used to make measurements. In addition, this study also makes a methodological contribution by examining the reliability and the validity of previous items and the adopting and adapting them for the context this study. Hence, the instrument developed is likely to be robust and the revised items will be handy for future research.

6.8.3 Managerial Contribution

Apart from the theoretical and methodological contributions, several managerial implications can be derived from the results of this study for practitioners and policy-makers. A few key implications about how Palestinian listed firms could enhance their performance by designing an effective MCS with respect to an environment of high uncertainty and Arab national culture can be derived from this study.

To that end, this study targeted two groups of practitioners: 1) MCS designers to design effective MCS with respect to its antecedent factors, and 2) top management to build sustainable competitive advantages through the exploitation organizational learning as an outcome of MCS.

Regarding the first group, namely, MCS designers, this study provides a clear explanation about the essential role of PEU in the process of MCS design. In this context, the empirical findings indicate that Palestinian listed firms give proper attention to competitive and operational uncertainty in the process of designing efficient MCS but not to political and technological uncertainty, which might impair the effectiveness of MCS in confronting the surrounding uncertainties.

Accordingly, the results of this study arrived at the conclusion that the Palestinian listed firms must give more attention to political and technological uncertainty. This must occur, although Palestinian managers in this study considered these kind of uncertainties to be out of their control, and as such, they prefer to control what can be controlled instead of controlling what seems beyond their control.

Regarding the impact of the Arab culture on MCS design, the findings of this study assist in understanding the fundamental role of the national culture on the process of MCS design. Thus, the current result gives explanation to management accountants and controllers about how to design an effective control environment with respect to Arab cultural characteristics to enhance the performance of their companies.

Touching the second group that might benefit from this study, namely, top management, this study tries to help top management in their endeavours toward building sustainable competitive advantages by designing effective MCS, with respect to its antecedent's factors as well as by exploiting its outcomes, namely, organizational learning. To that end, the findings imply that top management must have more courage to convert organizational learning into practical decisions to enhance organizational performance.

Finally, the practical implications of this study are useful for both listed and non-listed companies because both of them work under the same environment and culture. Moreover, Palestinian policy makers who interested in improving their organizational performance through implementing modern control techniques can benefit from this study as it is addresses the influence of the national culture and PEU on MCS and the outcomes of such an association on organizational learning and better organizational performance.

6.9 Limitation of the Study

Despite the several contributions of this research regarding MCS design with respect to its antecedents and outcomes in the Palestinian listed firms, the current study has

limitations that must be reported for the benefit of future research. Thus, this study has a number of features that must be accounted for; therefore, care must be taken in the interpretation and generalization of this study's findings into other contexts.

The first limitation of this study concerns the context in which the study is conducted. This study explored only Palestinian companies. It is possible that companies in other settings differ from their Palestinian counterparts. This may be so because of the size of the Palestinian economy, the politico-economic uncertainty, nature of market competition, economic policies or structures, legal and regulatory constraints that might differ among other countries. These possible differences may restrict generalizing the result beyond the context of Palestine.

In addition, national culture shapes the behaviour of people and also organizational dynamics (Hofstede et al., 2010), therefore caution is advised in the adoption of the findings from this study, as they may not fit well into other geographical contexts that do not share a similar cultural background with Palestine.

Moreover, although several industries were covered in this study, care must be taken in applying the results to other contexts that might not fit the industrial description covered in this study. Furthermore, the population of this study (Palestinian listed firms) might differ from the non-listed companies and that may hinder the possibility of generalizing the results outside this study population.

Finally, while a comprehensive approach was adopted in this exploration of the contingency perspective of MCS design in the Palestinian listed firms, it must be

acknowledged that a number of other factors have not been included in the research framework for this study (e.g., organizational culture, organizational size, structure and strategy etc.), which future research make take in account as will be discussed in the next section.

6.10 Recommendations for Future Research

Based on the above limitations, recommendations and suggestions for future research are provided in this section. Future researches should expand the population to be studied by adding non-listed firms to make the findings more generalizable. In fact, a good number of non-listed firms share similar characteristics with listed firms regarding size, capital, structure and so on, which can expand the population of future researches.

In addition, future researches should include other antecedent's factors with respect to MCS design to further the understanding of how Palestinian companies design their control system. An example is organizational culture whose influence on MCS design could be compared with that of national culture. Furthermore, organizational size, structure and strategy, to the best of this researcher's knowledge, have never been examined in the context of Palestinian.

In addition to the above points, future research is strongly recommended to re-examine the influence of the political uncertainty in different environments because the environment of this study (Palestine) has been dominated by such uncertainty over a long period of time ago, a situation that businesses and people now consider normal. Thus, a re-examination the influence of the political uncertainty in an

environment newly exposed to such uncertainty should be undertaken. Additionally, future researchers who are interested in measuring the impact of operational and technological uncertainty should include operational managers in their sample respondents due to their responsibility in confronting and dealing with such kind of uncertainty.

Furthermore, conducting a cross-cultural study to examine the influence of national culture on MCS would be useful, in particular the levers of control to see the possible differences between each culture regarding MCS design. Such a study could provide useful solutions to avoid the negative side effects of national culture on the effectiveness of MCS.

Future studies should also utilize the holistic control approach of Merchant (1982) and/or Malmi and Brown (2008) to compare their results with accurately those of the current study, which applied Simons' (1995) levers of control framework. Therefore, comparison between the holistic control approach of Merchant (1982), Malmi and Brown (2008) and Simons (1995) under the same environment and culture could enhance our knowledge regarding the control approach of the Palestinian firms.

Another useful recommendation concerns methodology. Future research should find another appropriate methodology to avoid the bias of the top management regarding the measurement of the organizational performance. Moreover, longitudinal study also might provide a significant approach in evaluating outcomes. Future research may also utilize a quantitative study to determine whether companies have adapted

different control techniques not coverer in Simons (1995), Merchant's (1982), and Malmi and Brown (2008) control approach.

Finally, managers of a high uncertainty avoidance culture may use MCS interactively for two purpose. One is to ensure that the information is not manipulated in the offices of their subordinates that may lead to different kinds of negative results, which requires deeper investigation in the future research.

6.11 Conclusion

Among the practical issues presented in chapter one was a concern with the weak and fluctuating financial performance of Palestinian listed firms. To study this issue, this research empirically examined five main hypotheses and another twenty sub-hypothesis, which made theoretical, methodological, and managerial contribution to the existing knowledge regarding MCS design and its use in the Palestinian listed firms.

The results of the present study contribute in bridging the literature gap between developed and less developed countries as most previous MCS research has been conducted in the context of developed economy. Indeed, this study opens a path of hope to expand MCS research in the Arab world and looks to assist organizations in designing more effective MCS as a way of enhancing their performance.

For that purpose, this study has extended the literature in linking the relationship between MCS and its antecedents and also between MCS and its outcomes. Accordingly, the current study has presented a detail investigation on MCS design, in

particular with respect to Simons' (1995) levers of control that includes beliefs, boundary, diagnostic and an interactive control with respect to its internal and external antecedent factors, specifically the influence of PEU that encompasses political and competitive external sources of uncertainty and operational and technological uncertainties that create internal uncertainty.

The empirical findings of PLS-SEM path coefficient indicated that PEU is a fundamental key for the purpose of designing an effective control environment. Specifically, competitive and operational uncertainty are strong influential factors on MCS design in the Palestinian listed firms studied.

The study found that national culture also is an essential antecedent factor that influenced MCS design in the Palestinian listed firms, which confirms the theoretical background of this research that embraced contingency and culture theories. In particular, uncertainty avoidance is the main cultural dimensions that determine the final design of the MCS, and as such, this should be accounted for with respect to designing an effective control environment in Palestinian companies. However, based on the association between national culture and MCS (levers of control), this study established an important basis for future international cross-cultural research that might assist in understanding how levers of control work under culture differences.

In addition to the antecedents of MCS, this study also investigated the outcome of control system represented in building organizational learning. The empirical finding showed that the association between MCS and organizational learning can create a

tool for strategic that may be used to solve problems while also improving on what has already been learned (Lee & Widener, 2012; March, 1991).

The final direct association examined in the current study concerned the influence of organizational learning on organizational performance. The PLS-SEM finding confirmed a strong significant association between these two constructs, which adds to the existing literature that accumulating learning is a fundamental key to enhance performance through building a sustainable competitive advantage. Hence, the present study confirms the fundamental role of the resource based view theory (RBV) as a theoretical background in exploiting organizational resources through intelligent design of MCS.

The theoretical design of this study provides a unique opportunity to test indirect relationship. In particular, whether organizational learning mediates the relationship between MCS and organizational performance. The empirical analysis confirmed the role of the organizational learning as a mediator variable between MCS and organizational performance in the Palestinian listed firms.

Based on the findings from this study, it is important to realize that a firm's performance is greatly dependent on MCS design, which, in turn, depends upon external factors and firm characteristics. Briefly, MCS design in Palestine companies as product of PEU (due to a relatively high level of PEU in Palestine), and the characteristics of the national culture.

In conclusion, the findings from this research provide useful guidelines to organizations, specifically to their managers, for making decisions in the process of MCS design. Apart from these contributions, the research outcome has also provided useful guidance for future research especially in a developing economy and in particular to the Arab world, in which little MCS research exists.

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Appendix 1

Company Name	Sector	2014	2013	2012	2011	2010	Total Years
AHC	**Services**	**losses**	**losses**	**losses**	**losses**	**losses**	5 years
WATANIYA	**Services**	**losses**	**losses**	**losses**	**losses**	**losses**	5 years
GCOM	**Services**	**losses**	**losses**	**losses**	**losses**	**losses**	5 years
WASSEL	**Services**	**losses**		**losses**	**losses**		3 years
	Total = 4						
JPH	**Industry**	**losses**					
AZIZA	**Industry**				**losses**		1 year
JCC	**Industry**	**losses**					1 year
LADAEN	**Industry**	**losses**	**losses**	**losses**	**losses**	**losses**	5 years
	Total = 4						
AQARIYA	**Investment**	**losses**	**losses**	**losses**			3 years
ARE	**Investment**	**losses**	**losses**			**losses**	3 years
PID	**Investment**				**losses**	**losses**	1year
ARAB	**Investment**	**losses**					
JREI	**Investment**	**losses**	**losses**	**losses**	**losses**		4 years
PALAQAR	**Investment**	**losses**	**losses**			**losses**	3 years
PRICO	**Investment**	**losses**	**losses**	**losses**			3 years
Company Name	**Sector**	**2014**	**2013**	**2012**	**2011**	**2010**	**Total Years**
PLAZA	**Investment**	**losses**	**losses**	**losses**	**losses**	**losses**	5 years
	Total = 8						
AIG	**Insurance**			**losses**			1 year
MIC	**Insurance**			**losses**	**losses**	**losses**	3 years
	Total = 2						
AIB	**Banks**					**losses**	1 Year
PSE	**Banks**		**losses**	**losses**	**losses**	**losses**	4 years
	Total = 2						

Source: Researcher analysis.

Notes: Total firms that faced losses within the last five years Percentage = 20/49 = 40%.
Total firms that faced continues losses within the last five years = 5/49 = 10%.

APPENDIX 2

Cover Letter to Managers of The Palestinian Listed Firms for the Final Data Collection

August 2015

Dear Managers,

I would like to express my sincere appreciation in advance to you and your company for completing the enclosed questionnaire. My name is Rabee M.A Shurafa. I am a Ph.D. candidate in the Accounting Department (concentrating in business management control system-MCS) at University Utara Malaysia (UUM). Currently, I am conducting a study on the relationship between the antecedent factors (perceived environmental uncertainty and national culture), MCS, organizational learning, and firm's performance. The main focus of the study is to examine how certain aspects of the external and internal environmental uncertainty influence MCS design, and the impact of such design on firm's performance via the mediating role of organizational learning.

In this packet, you will find a questionnaire which is sent to only to the CEO and CFO of the Palestinian listed firms; therefore, your answers are very important to the study. The success of this study depends greatly on your participation in completely filling out the questionnaire.

Several of the questions ask for information that you know and under your fingertips. If this is not the case, please estimate the information to the best of your ability. If you have any questions, feel free to contact me at 0595-2532509 or by e-mail at rabeeshurafa@gmail.com. Yon can be assured that any information you provide is intended for academic research only and will be kept strictly confidential. In recompense for your time and effort, a summary report of the study results will be under your request any time.

Thank you again for your time and cooperation.

Sincerely,

Rabee M.A Shurafa
Ph.D. candidate
Rabeeshurafa@gmail.com

Section One (**A**): This part consists three questions about your organization.

A. Please choose the industry of your company.

□Banks I□vestment Se□vice Indu□ry Insura□e

B. What is the approximate number of employees in your organization?.....

C. Year of establishment …….

Section One (**B**): This part consists five questions about yourself.

A. Please choose your gender.

□Male F□male

B. Please choose to which group of age you belong

□ Bellow 30 years old □etween 31- 45 46□nd above

C. Please choose your education level.

□ Bachelors M□aster PhD□ Other.□…….

D. Please tick if you have any professional certificate

□ CPA C□MA CF□ ACCA□ CIA Ot□r …….□..

E. What is your position?.....
.....

F. For how many years you have been in this position?.....

G. For how many years you work with this company?.....

H. What is the total years of work experience in your field?.....

Section Two: Perceived Environment Uncertainty

This section is four parts. Part **A** is going to ask about political uncertainty, while part (**B**) is about competition in your industry. Part **C** and **D** is about operational and technological uncertainty.

Part (A) Political uncertainty:

Based on five-point Likert scale please select your best answer from the following items (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = large extent).

	Items	1	2	3	4	5
1.	Our environment is very safe and there is little threat to our survival and growth.					
2.	Our environment is unpredictable and hard to anticipate the political changes.					
3.	Our external environment is very predictable; very easy to forecast the future state of the political environment.					
4.	Our company faces difficulties in implementing its strategies and plans due to the Political instability.					

Part (B) Competitive uncertainty:

To what extent does top management in your organization monitor the following uncertainty Based on five-point Likert scale please select your answer from the following items (1 = Not at all, 2 = Low Extent, 3 = Moderate Extent, 4 = Large Extent, and 5 = Very Large Extent).

	Items	1	2	3	4	5
1.	Product introductions in adjacent industries.					
2.	Market tactics of competitors.					
3.	New industry entrants.					

Part (C) Operational Uncertainty.

To what extent does top management in your organization monitor the following uncertainties in order to ensure that the goals of the firm are achieved. Based on five-point Likert scale please select your answer from the following items (1 = Not at all, 2 = Low Extent, 3 = Moderate Extent, 4 = Large Extent, and 5 = Very Large Extent).

	Items	1	2	3	4	5
1.	Diffusion of prosperity knowledge outside the firm.					
2.	Scale effects (Product depth).					
3.	Scope effect (product breadth).					
4.	Input costs.					
5.	Internal product enhancement.					
6.	Increasing productive capacity					

Part (C) Technological uncertainty.

To what extent does top management in your organization monitor the following uncertainties. Based on five-point Likert scale please select your answer from the following items (1 = Not at all, 2 = Low Extent, 3 = Moderate Extent, 4 = Large Extent, and 5 = Very Large Extent).

	Items	1	2	3	4	5
1.	Change in product technology that affect the relative cost/ efficiency to user.					
2.	New technology					
3.	Competitors technology					

Section Three: National Culture

This section is about the impact of national culture on the organizational control. Based on five-point Likert scale please select your answer from the following items (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = large extent).

	Items	1	2	3	4	5
1.	Subordinates are frequently afraid to express disagreement with superiors.					
2.	Top management usually controls most of organization activities and did not delegate controlling power to others.					
3.	There is considerable distance between top managers and middle managers.					
4.	A company or organization's rules should not be broken.					
5.	Our company has specific rules, procedures, and work laws.					
6.	Our company extremely implements its rules, procedures, and work laws.					
7.	Our company is intolerant of deviant persons or risky ideas.					
8.	Our company prefers to communicate its results with its members.					
9.	Organization managers prefer to work individually rather than to work in groups.					
10.	Our company prefers group decision making.					

Section Four: Management Control System (MCS)

This section is about management control systems (beliefs, boundary, diagnostic, and interactive system).

4-A: Beliefs System and Boundary System

Please indicate the agreement level to the following statements that describe your organization. Based on five-point Likert scale please select your answer from the following items (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = large extent).

Items						
Beliefs Control System		1	2	3	4	5
1.	Our mission statement clearly communicates the firm's core values to our workforce.					
2.	Top managers communicate core values to our workforce.					
3.	Our workforce is aware of the firm core values.					
4.	Our mission statement inspiers our workeforce.					
Boundary Control System		1	2	3	4	5
5.	Our firm relies on a code of business conduct define appropriate behaviour for our workforce.					
6.	Our code of business conduct informs our workforce about behaviours that are off-limits.					
7.	Our firm has a system that communicates to our workforce risks that should be avoided.					
8.	Our workforce is aware of the firm's code of business conduct.					

4-B*:* Diagnostic Control and Interactive Control

Please rate the extent to which your top management team currently uses performance measurements (PM), or performance measurement system. Based on five-point Likert scale please select your answer from the following items (1 = Not at all, 2 = Low Extent, 3 = Moderate Extent, 4 = Large Extent, and 5 = Very Large Extent).

	Items	1	2	3	4	5
	Diagnostic Control System					
1.	Track progress towards goals.					
2.	Monitor results.					
3.	Compare outcomes to expectations.					
4.	Review key measures.					
	Interactive Control System	1	2	3	4	5
5.	Enable discussion in meetings of superiors, sub-ordinates and peers.					
6.	Enable continual challenge and debate underlying data, assumptions and action plans.					
7.	Provide a common view of the organization.					
8.	Tie the organization together.					
9.	Enable the organization to focus on common issues.					
10.	Enable the organization to focus on critical success factors.					
11.	Develop a common vocabulary in the organization.					

Section Five: Organization learning

Please indicate the extent to which the following statement describes your organization in regard to organization learning. Based on five-point Likert scale please select your answer (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = large extent).

Items		1	2	3	4	5
1.	Learning is the key to improvement.					
2.	Basic value include learning as a key to improvement.					
3.	Once we quit learning we endanger our future.					
4.	Learning is viewed as an investment not an expense.					

Section 6: Organizational Performance

Please choose from the follwing scale your organizational performance with regard to your competitors in your industry. Based on five-point Likert scale please select your answer (1 = Very poor performance, 2 = poor, 3 = Barely acceptable, 4 = Good, and 5 = Very good performance).

Items		1	2	3	4	5
1.	Overal firm's profitability.					
2.	Return on investment.					
3.	Customer satisfaction.					
4.	Product/ services quality.					
5.	Development of new products / services.					
6.	Developing employees' competencies and skills.					
7.	Employees' satisfaction.					

Thank you

APPENDIX 3

Arabic Version of the Survey Questionnaire

Cover Letter to Managers of The Palestinian Listed Firms

for the Final Data Collection in the Arabic Language

لرحمن الرحيم

لسادة المدراء ا عزاء.

تحيه طيبه وبعد.

أود بداية أن أعرب عن خالص تقديري وامتناني لكم ستكمال هذا ا ستبيان. انا ربيع محمد الشرفا طالب لدكتوراه في جامعه شمال ماليزيا)University Utara Malaysia-UUM(تخصص محاسبه اداريه (التركيز: نظم الرقابة اريه في فروعها المالي وغير المالي) تهدف هذه الدراسة الى التعرف على تأثر الظروف السياسية وما يتبعها من تقلبات اقتصاديه على ممارسات الرقابة ارية المطبقة في الشركات الفلسطينية المدرجة في سوق فلسطين المالية بالاضافة الى ذلك فان هذه الدراسة تسعى ايضا للتعرف على تأثر ثقافة العربية على البيئة الرقابية وأثرها على ا داء المالي وغير المالي للمؤسسة. ان المعلومات المستخدمة في هذه الدراسة ي لغايات أكاديمية بحته ولن يتم اعطائ ة اخرى.

مع خالص الشكر والتقدير

ربيع محمد الشرفا

Rabeeshurafa@gmail.com

Rabee_m@oyagsb.uum.edu.my

Mobile- +972595253250

القسم يحتوي هذا القسم على جزئيين. الجزء ا ل يتكون من معلومات عن المؤسسة بينما الجزء الثاني يتكون من معلومات عن عجبى هذه ا ستمارة.

__الجزء__

1-الرجاء اختيار قطاع العمل

☐ خدمات ☐ صناعة ☐ تجارة ☐ أخرى

2- اجمالي عدد الموظفين في الشركة .....

3-سنوات تأسيس الشركة .....

الجزء الثاني

1-الرجاء اختيار الجنس

☐ ذكر ☐ أنثى

2-الرجاء اختيار العمر

☐ اقل من 30 عام ☐ 31 الى 45 ☐ أكثر من 46

3-الرجاء اختيار المستوى التعليمي

☐ بكالوريوس ☐ دراسات عليا ☐ أخرى

4- إذا كان لديك أي من الشهادات المهنية التالية الرجاء اختيار الشهادة

☐ CPA ☐ CMA ☐ CFA ☐ ACCA ☐ CIA ☐ Other .....

5- عدد سنوات الخبرة

☐ أقل من 5 سنوات ☐ من 6 الى 10 ☐ من 11 الى 15 ☐ من 16 فأكثر

6- ما هو المسمى الوظيفي الحالي .....

7- الرجاء اختيار الفترة الزمنية التي قضيتها في هذا المنصب.

☐ أقل من 5 سنوات ☐ من 6 الى 10 ☐ من 11 الى 15 ☐ من 16 فأكثر

القسم الثاني: يتكون هذا القسم من أربع اجزاء رئيسية. الجزء الأول يتعلق بالعقبات و التسويقية في فلسطين بينما الجزء الثاني يتعلق بمدى اهتمام ادارة العليا بمستوى المنافسة في السوق الفلسطيني. الجزء الثالث يتناول التكنولوجيا المستخدمة في مؤسستكم بالمقارنة مع منافسيكم الرئيسيين بينما يهتم الجزء الرابع بالعمليات التسويقية في مؤسستكم الموقرة.

**الجزء   **: الرجاء اختيار الى اي مدى تقوم ادارة العليا في مؤسستكم باهتمام بالنقاط التالية من اجل التأكد من قدرة المؤسسة على تنفيذ خططها وتحقيق اهدافها. استنادا إلى المقياس ادناه يرجى تحديد إجاباتكم.

.

5	4	3	2	1
موافق بشده	موافق	محايد	غير موافق	غير موافق بشده

5	4	3	2	1	العبارة	
					بيئتنا آمنة جدا وليس هناك تهديد يذكر لقطاعنا والنمو. (البيئة السياسية)	1.
					عدم الاستقرار السياسي يعيق الشركة لتنفيذ خططها واستراتيجياتها	2.
					بيئة يمكن التنبؤ بها ويصعب توقع التغيرات السياسية	3.
					من السهل جدا التنبؤ بالحالة المستقبلية للبيئة السياسية التي نعمل بها.	4.

الجزء الثاني: الرجاء اختيار مدى اهتمام ادارة العليا بالمنافسة السوقية. استنادا إلى المقياس ادناه يرجى تحديد إجاباتكم.

5	4	3	2	1
اهتمام كبير جدا	اهتمام كبير	اهتمام متوسط	اهتمام صغير	على ا ق

5	4	3	2	1	العبارة	
					طرح المنتجات والخدمات الجديدة من قبل المنافسين.	1.
					التكتيكات التسويقية التي يطبقها المنافسين.	2.
					دخول منافسين جدد للسوق.	3.

الجزء الثالث: الرجاء اختيار مدى اهتمام ادارة الفندق بالتكنولوجيا المتقدمة. استنادا الى المقياس ادناه يرجى تحديد إجابتكم.

5	4	3	2	1
اهتمام كبير جدا	اهتمام كبير	اهتمام متوسط	اهتمام صغير	ليى ا ق

5	4	3	2	1	ا ة	
					التغييرات في التكنولوجيا التي تؤثر على تكلفة المنتج او الخدمة.	.1
					التكنولوجيا التي يستخدمها المنافسون.	.2
					التكنولوجيا الحديثة.	.3

الجزء الرابع: الرجاء اختيار مدى اهتمام ادارة الفندق بالمهارات التشغيلية التالية. استنادا الى المقياس ادناه يرجى تحديد إجابتكم.

5	4	3	2	1
اهتمام كبير جدا	اهتمام كبير	اهتمام متوسط	اهتمام صغير	ليى ا ق

5	4	3	2	1	ا ة	
					عدم افشاء اسرار العمل خارج المؤسسة.	.1
					اضافة منتجات او خدمات فرعية من المنتج او الخدمة الرئيسية. Scale effect (Product depth)	.2
					اضافة منتجات وخدمات ملائمة للمنتج الرئيسي. Scope effect (Product width)	.3
					كفاءة تنتج (كفاءة انتاج تكاليف تقديم الخدمة)	.4
					ابتكار منتجات وخدمات جيده.	.5
					زيادة القدرة الانتاجية.	.6

القسم الثالث: يعمل هذا القسم على قياس ت داخل إطار المؤسسة ومستوى تقبل المؤسسة موظفيها ومشاركة نتائجها معهم. استنادا إلى المقياس ادناه يرجى اختيار مدى ئمة العبارات التالية لمؤسستكم.

5	4	3	2	1
موافق بشده	موافق	محايد	غير موافق	غير موافق بشده

5	4	3	2	1	ا ة	
					يخشى المرؤوسون من ابداء معارضتهم لقرارات رؤسائهم في العمل	.1
					تقوم ا دارة العليا بالكثير من المهام الرقابية على نشاطات الشركة وتعطي تفويض حل قليل بهذه المهام.	.2
					هناك مسافة واضحة بين المدراء الكبار والمدراء المتوسطين. (المدراء المتوسطين هم رؤساء ا ام)	.3
					يسمح بخرق قوانين وإجراءات العمل.	.5
					المؤسسة قوانين وإجراءات عمل صارمة.	.6
					تقوم المؤسسة بتطبيق قوانينها وإجراءات عملها بشكل صارم.	.7
					المؤسسة قوانين عمل صارمة تجاه ا اص او ا المنحرفة.	.8
					تفضل المؤسسة مشاركة نتائج اعمالها مع موظفيها.	.9
					يفضل المدراء العمل بشكل فردي بدل من العمل الجماعي.	.10

القسم الرابع: يتكون هذا القسم من أسئلة تتعلق بنظم الرقابة الإدارية كوقاية للسلوك المنحرف للموظفين والحريات الممنوحة لهم. استنادا إلى المقياس أدناه يرجى اختيار مدى ملائمة العبارات التالية لمؤسستكم.

5	4	3	2	1
موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة

5	4	3	2	1	العبارة	
					Beliefs System	
					رسالة المؤسسة تبين بوضوح القيم الأساسية لموظفي المؤسسة.	1.
					الإدارة العليا تقوم بإبلاغ القيم الأساسية لموظفي المؤسسة	2.
					موظفو الشركة يدركون القيم الأساسية للمؤسسة.	3.
					رسالة المؤسسة تلهم موظفي المؤسسة	4.
5	4	3	2	1	Boundary system	
					تعتمد شركتنا على مدونة السلوك في التعريف بالسلوك المناسب للقوى العاملة لدينا.	1.
					مدونة السلوك تعمل على إبلاغ القوى العاملة لدينا حول السلوكيات التي هي خارج الحدود.	2.
					المؤسسة لديها نظام داخلي يعمل على إبلاغ موظفي الشركة بالمخاطر التي ينبغي تجنبها.	3.
					موظفي المؤسسة على اطلاع وإدراك لمدونة سلوك العمل.	4.

القسم السادس: تقوم مؤسستك باستخدام مقاييس الأداء المالي وغير المالي. يعمل هذا القسم على قياس الأهداف التي من اجلها يتم قياس اداء المؤسسة. استنادا إلى المقاييس التالية يرجى تقييم الأهداف التي يتم من اجلها قياس الأداء في مؤسستك الموقرة.

1	2	3	4	5
لا على الإطلاق	اهتمام صغير	اهتمام متوسط	اهتمام كبير	اهتمام كبير جدا

الرقابة التشخيصية						
	Diagnostic Control	1	2	3	4	5
.1	مراقبة النتائج					
.2	التقدم نحو الأهداف (تحقيق الأهداف)					
.3	مقارنة النتائج بالتوقعات					
.4	مراجعة الانحرافات الرئيسية					

القسم السادس: تقوم مؤسستك باستخدام مقاييس الأداء المالي وغير المالي من خلال التدخل المباشر من الإدارة العليا احيانا. استنادا إلى المقاييس التالية يرجى تقييم الأهداف التي يتم من اجلها تدخل الإدارة العليا في عمليات قياس الأداء.

1	2	3	4	5
لا على الإطلاق	اهتمام صغير	اهتمام متوسط	اهتمام كبير	اهتمام كبير جدا

الرقابة التفاعلية						
	Interactive control	1	2	3	4	5
.1	إتاحة المجال للمناقشة في اجتماعات الرؤساء والمرؤوسين والأقران					
.2	تمكين التحدي المستمر ومناقشة البيانات الأساسية وخطة العمل.					
.3	تقدم وجهة نظر عامة عن المؤسسة.					
.4	ربط اجزاء المؤسسة ببعضها البعض.					
.5	تمكين المؤسسة إلى التركيز على عوامل النجاح الحاسمة.					
.6	تطوير المفردات المشتركة في المؤسسة.					
.7	تمكين المؤسسة من التركيز على القضايا العامة.					

القسم الرابع: هذا القسم يعمل على قياس مدى اهمية التعلم المستمر واكتساب خبرات جديدة في المؤسسة. استنادا إلى المقياس ادناه يرجى اختيار مدى ملائمة العبارات التالية لمؤسستك الموقرة.

5	4	3	2	1
موافق بشدة	موافق	محايد	غير موافق	غير موافق بشده

5	4	3	2	1	العبارة	
					التعليم هو مفتاح التقدم.	1.
					من القيم الاساسية للتقدم في المؤسسة التعليم	2.
					بمجرد أن نتوقف عن التعلم نعرض مستقبلنا للخطر.	3.
					يعتبر التعلم كاستثمار وليس كمصروف	4.

القسم الثامن: القسم الثامن والأخير مخصص لقياس اداء المؤسسة المالي وغير المالي. استنادا إلى المقياس ادناه يرجى اختيار أفضل خيار لمؤسستك الموقرة وذلك ثلاث سنوات الماضية بالمقارنة مع أهم منافسيكم (من غير المتوقع ان تكون اجابتك دقيقة تماما).

5	4	3	2	1
جيد جدا	جيد	مقبول	سيء	سيء للغاية

5	4	3	2	1	العبارة	
					ربحية الشركة	1.
					العائد على الاستثمار	2.
					رضا الزبائن/العملاء	3.
					جودة المنتج/الخدمة	4.
					تطوير كفاءات ومهارات الموظفين	5.
					تطوير منتجات / خدمات جديدة	6.
					رضا الموظفين	7.

شكرا لكم

نتمنى لكم مزيدا من التقدم والنجاح